BRITISH MEDICAL JOURNAL:

BEING THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EDITED BY ANDREW WYNTER, M.D.

No. CLI.] LONDON: SATURDAY, NOVEMBER 19, 1859. [NEW SERIES.

Illustrations OF HOSPITAL PRACTICE:

METROPOLITAN AND PROVINCIAL.

GUY'S HOSPITAL.

WOUND OF THE INTERNAL JUGULAR VEIN: PYÆMIA.

Under the care of J. BIRKETT, Esq.

[*From Notes by* H. OWENS, ESQ.]

JAMES FADDEN, aged 30, was admitted on May 15th, having been struck with a knife on the neck in a fight. He fell down immediately after the blow, and was picked up bleeding profusely. On being brought to the Hospital, a wound was found, about two inches in length, on the left side of the neck, passing through the substance of the sterno-mastoid muscle, in a direction somewhat parallel to the course of its fibres. There was a good deal of venous hæmorrhage, rendering it necessary to fill the wound with sponges, and pressure was applied, as no vessel could be seen so as to tie it. The bleeding was by this means arrested.

On removing the sponge, on the following day, it was found to have adhered rather firmly, by means of the fibrine of the blood, to the surrounding parts. On wiping the wound, a clot could be seen at its anterior part, dipping down deeply towards the subclavian vein.

No further bleeding occurred for the next few days; but the wound became sloughy, and some matter collected, which was evacuated by enlarging the wound in the integuments. He seemed to be doing well until May 22 (seven days after the injury), when he shivered slightly. Next day, a more severe rigor occurred, followed by cough and the expectoration of tenacious rusty phlegm. The violence of the cough caused the wound to bleed afresh. Mr. Birkett accordingly determined to enlarge it, and seek for the bleeding vessel. This being done (May 24th), a deep hole was found behind the clavicle, and a small piece of adherent fibrine could just be distinguished at the bottom. On moving this plug, venous hæmorrhage immediately occurred, and filled the wound. The plug, therefore, was not further disturbed; Mr. Birkett being now satisfied that there was a wound of either the internal jugular or subclavian vein. The wound was again plugged, and the plug allowed to remain for two days, during which no bleeding occurred. After this, it was necessary to remove the plug; and then the bleeding recurred at intervals in small quantities. Dr. Wilks examined his chest on the 24th, and detected signs of pneumonia on both sides. On the following day, he was so much worse that his depositions were taken by the magistrate. He continued to linger (rallying slightly about the 29th) till June 3rd, when he died, nineteen days after the accident.

On *post mortem* examination, the left brachiocephalic vein and its branches were traced, and thus the seat of injury was at once exposed. This was on the outer side of the internal jugular, about half an inch above its junction with the subclavian. The wound in the vein was sloughy, and now appeared round, occupying about half the circumference of the vessel. It would just have admitted the passage of a pea. It contained a soft clot, which was easily removed, leaving its passage free. The vein for some distance around was inflamed through all its coats, and these were thickened and infiltrated with lymph; and the interior of the vein was occupied by layers of firmly adherent lymph. This was the case with the jugular above the wound, and below it, reaching into the subclavian and brachiocephalic. All around the vein, suppuration extended and proceeded down into the chest, in the anterior mediastinum. The lungs were full of large abscesses, and there was a secondary abscess also on the surface of the spleen.

Mr. Birkett observed, that the most interesting point in this case was the development of pyæmia as a consequence of a direct and immediate communication between a large vein and a deep wound so situated that, if suppuration took place, the pus would collect, and probably enter the wounded vein. So long as adhesive inflammation existed, no ill result followed; but as soon as pus collected in the wound, the patient quickly had marked signs of pyæmia. This shows the practical importance of always endeavouring to obtain adhesion of a wound in connexion with a large vein. In this case, pressure might have been made on the wound with a pad or the finger, and the case treated like a wound of a vein in phlebotomy; but probably the situation and size of the opening would have precluded the success of such treatment.

WESTMINSTER HOSPITAL.

CASES OF STRICTURE OF THE URETHRA TREATED BY "SLITTING UP".

Under the care of W. A. HILLMAN, Esq.

WE have recently had the opportunity of watching a few cases of stricture, which have been treated at this Hospital by the plan introduced there by Mr. Holt; and as this method has been now in use there sufficiently long for the surgeons of the institution to form an opinion decidedly in its favour, we have thought that a notice of it, accompanied by the notes of two cases, with which we have been favoured by Mr. Hillman, might prove useful. The method consists in dilating the stricture, if necessary, until it is sufficiently relaxed to allow of the passage of an instrument about the size of a No. 3 catheter. The patient is then placed under the influence of chloroform, and the "stricture-dilator" is introduced. This instrument resembles somewhat a catheter, only slightly curved at the end, and split down the middle, so as to consist of two longitudinal half-cylinders, which admit of being separated to some extent, and are fixed on a central stem or axis. When the instrument is fairly in the bladder, the spring or collar which connects the blades is relaxed, and a large perforated rod, about the size of Nos. 10-12 catheter, bevelled off at the end, is fixed on the central axis, and forcibly driven down the urethra. The effect of this is to suddenly dilate, and in most cases to rupture, the tissues of which the stricture is composed; as is evidenced by the escape of a few drops of blood. The dilator is now withdrawn, and a No. 10 or 12 catheter (according to the size of the urethra) is introduced, and the water drawn off. This catheter is taken out, and the patient sent to bed, and generally a stimulant given. He is left quiet during the following day; and, on the second day from the operation, this catheter is reintroduced, and generally passes readily. Sometimes the stricture, or the urethra, may have contracted again to the size of No. 8. This plan is extensively followed by Mr. Holt, Mr. Hillman, and Mr. Power; and a very great number of cases altogether have now been treated in this manner, the greater number having been under Mr. Holt's care. No bad symptoms have followed in any case; and we are informed that the stricture shows no greater tendency to re-contract than is noticed after any other plan, and that several persons have been seen in whom the cure had already lasted three years.

We need hardly dwell on the advantages of a plan which, if successful, saves so much time and suffering as is involved in the treatment of a severe stricture by the ordinary method of dilatation; and if the forcible rupture of a stricture should prove as safe a proceeding in the hands of others as it has done in those of the surgeons of this hospital, we do not doubt that it will soon come into more general use.

CASE I. T. W. has suffered from urethral stricture for about fourteen years, the symptoms having gradually become more and more severe. He sometimes passed water in a very small

stream, but more frequently only in drops; in his own words, he "was always making water". There was considerable admixture of mucus and pus with the urine, and he suffered from considerable prolapse of the rectum.

On his admission, a No. 1 catheter could not be pased into the bladder; but after a short stay in the Hospital, a No. 1, and subsequently a No. 3, silver catheter was passed with some difficulty. After a short residence in the Hospital, whilst he was under the influence of chloroform, Mr. Holt's "stricture dilator" was introduced, and the stricture split up. The dilator having been withdrawn, a No. 10 silver catheter was passed into the bladder, the bladder emptied, and the catheter removed, a few drops only of blood being lost. He had some smarting pain, as the urine passed along the urethra, for two or three days, but no unfavourable symptom of any kind followed the operation.

He was shortly discharged from the Hospital, passing his urine in a good stream, without pain, and was not obliged to empty the bladder at night, as he could retain more than a pint of urine without inconvenience, the mucus and pus having disappeared, and the prolapse of the rectum nearly subsided.

Case II. P. F., aged 56, was admitted under Mr. Hillman's care, on September 13th. He had suffered from stricture of the urethra for at least sixteen or eighteen years. The urine passed in an exceedingly narrow stream, almost indeed drop by drop; and the bladder was so contracted and irritable that it would retain scarcely any water. The patient was in the Hospital for four weeks before any instrument could be introduced into the bladder; after five attempts, however, a silver catheter, smaller than No. 1, was passed, and subsequently a No. 3.

October 18th. The "stricture dilator" having been introduced, and the patient put under the influence of chloroform, the stricture was split up, a No. 10 silver catheter was introduced; the bladder was emptied, and the catheter immediately withdrawn. A few drops only of blood escaped from the urethra. He was made warm in bed; had some hot gin and water administered. No bad symptom followed.

He left the Hospital much improved in general health, passing his urine in a good stream; the bladder having so far recovered its healthy condition, that there was no necessity for him to pass urine during the night.

HULL GENERAL INFIRMARY.

I. SUPPOSED HYDATID TUMOUR OF LIVER: EVACUATION OF CYST: RECOVERY.

Under the care of Owen Daly, M.D.

[*Communicated by* C. J. Evans, Esq., *House-Surgeon.*]

Michael Growras, a Russian sailor, aged 35, was admitted under the care of Dr. Daly, on August 15th, 1858. He had been ill some weeks, but no satisfactory history could be obtained. He complained of great pain and tenderness in the right hypochondriac region, which was enlarged and more prominent than natural; and there was extensive dulness on percussion. The swelling was not at all defined. He was not jaundiced. His countenance was anxious. The pulse was small and feeble. The following mixture was prescribed.

℞ Æther. chloric. ʒj; tinct. camph. comp. ʒiss; mist. camph. ad ʒviij. M. Fiat mistura, cujus sumat ʒi 4tis horis.

He was ordered to have three ounces of wine; and a sinapism applied to the affected part.

Aug. 16th. There is still great tenderness of the right side. The pulse has a better volume. Eight leeches were ordered to be applied to the right side, to be followed by mercurial plaster. Beef-tea was given.

Aug. 18th. Some little relief was obtained from the leeches. He was directed to take five grains of hydrargyrum cum cretâ twice a day.

August 23rd. There is less tenderness of the side. The bowels are regular. He was ordered milk diet. A plaster of ammoniacum and mercury was applied to the left side.

Sept. 3rd. A gradual and slight improvement has continued to take place up to the present time; but to-day he is not so well. His countenance is very anxious; pulse very small and feeble.

℞ Ammoniæ sesquicarb. ℈ij; ætheris chloric. ʒiss; aquæ menthæ ad ʒviij. M. Fiat mistura cujus sumat ʒj 4tis horis.

The wine was ordered to be increased to four ounces daily.

Sept. 4th. He has vomited a large quantity (two or three potfuls) of greenish-brown fluid; otherwise he feels better.

℞ Mist. effervesc. ʒviij; acidi hydrocyanici ♏x. M. Fiat mistura cujus capiat ʒj 4tis horis.

The fluid vomited was of specific gravity 1020, of acid reaction, albuminous.

Sept. 5th. He has vomited more of the same kind of fluid. The right side seems to bulge less than before. He was ordered to omit the pills, and to have emplastrum ferri applied to the right side. Two scruples of carbonate of soda were added to the effervescing mixture.

The vomiting ceased after two or three days, and a gradual and marked improvement then took place, the right side assuming its natural shape and appearance.

Sept. 29th. He was ordered to omit the wine, and to have instead a pint of porter daily, and full diet.

℞ Mist. quinæ ʒviij; æther. chloric. ʒiss. M. Fiat mistura cujus capiat ʒj ter die.

He was discharged cured on October 25th.

Remarks. There are several points of interest in this case worthy of note. He was first treated on the supposition that he was labouring under hepatitis, somewhat chronic in character; but the apparent enlargement of the liver was greater than usual in such cases. But little if any improvement followed the plan pursued. The sudden accession of the vomiting threw a fresh light upon the case, and suggested the probability of there being a hydatid cyst of the liver. If this were so, the cyst must have burst into the cavity of the stomach, this organ having become adherent to the liver. After the vomiting had entirely ceased, the man quickly improved, and made a good recovery.

In favour of its being a hydatid cyst, is the fact of the suddenness of the attack of vomiting, the corresponding subsidence of the bulging of the side, and the subsequent quick recovery of the patient. Against it, the following may be adduced; viz., the large quantity of fluid (more than a gallon), which could hardly have been contained in a cyst of the liver; and the fact of no cysts or portion of cyst being discovered in the fluid, which was most carefully examined for that purpose. Had even a portion of cyst-wall been found, all doubt would have been set at rest. The sudden commencement and equally sudden cessation of the vomiting would hardly be consistent with the idea of an attack of pyrosis, which otherwise would suggest itself to one's mind.

II. ABSCESS OF KIDNEY: DISCHARGE OF RENAL CALCULI FROM THE LOINS: DEATH: AUTOPSY.

Under the care of Owen Daly, M.D.

[*Communicated by* C. J. Evans, Esq., *House-Surgeon.*]

George Chapman, aged 44, was admitted under the care of Dr. Daly, on September 2nd, 1858. For the following history I am indebted to the kindness of Mr. Morley, of Barton-on-Humber, under whose care the patient had previously been. It is in his own words:—

"Last October (eleven months ago), he was attacked with periodical shivering fits, resembling similar attacks from which he had suffered when in the Black Sea, during the Russian war. He was treated then, and on the present occasion, for ague; and took quinine for a long time, without benefit. Some weeks after he had been under my care, I detected a large abdominal tumour in the left hypochondriac region, reaching nearly to the crest of the ilium. I supposed this tumour to be an enlarged spleen, until he began to pass pus in his urine, after which symptom had continued some time, an abscess presented itself in the loins, which I opened, and gave exit to some very fœtid matter. A fistula remained, from which clear fluid, of a urinous odour, constantly trickled. I collected some, and found it consisted chiefly of albumen. From fifteen to twenty small calculi, like millet-seeds, subsequently escaped, settling the point as to the seat of the disease.... You will no doubt have observed his bronzed skin; he is naturally dark, but has become much darker since this illness.... He has been taking tincture of sesquichloride of iron for weeks, with benefit."

On admission, he complained of weakness and aching pain in the loins. There was the mark of an old cicatrix in the left

lumbar region, which was puckered and contracted. Some small hard bodies (calculi) could also be felt deep seated beneath the integuments in this region, near the spine. His urine contained a considerable amount of pus, and was of specific gravity 1010. His general health was tolerably good; his skin generally was dark.

℞ Tincturæ ferri sesquichloridi ʒiss; infusi quassiæ ʒviij. M. Fiat mist. Capiat ʒj ter die.

Full diet was ordered.

This plan was continued for a fortnight, without much improvement.

September 17th. He was ordered—

℞ Acidi gallici gr. v; confectionis rosæ q. s. ut fiat pilula bis die sumenda.

He was ordered to have half a pint of porter daily.

Both his general health and the state of his urine improved considerably under this treatment. The latter, however, still contained a small quantity of pus.

October 23rd. He was made an out-patient, at his own request.

Whilst in hospital, an incision was made in his back, and several small round calculi removed from beneath the lumbar fascia. Others, amounting in all to about thirty, worked themselves out through the wound, which subsequently healed.

He continued an out-patient up to January 1st, 1859, when he was readmitted into the house. His urine now contained little or no pus. But it would be tedious to relate the further progress of the case in detail. He was again put on the tincture of muriate of iron; subsequently, mineral acids and quinine, with generous diet. An issue was made in his loins, but he could not bear it. His urine at one time was perfectly free from pus, or any other sediment; but it subsequently returned. He left again in February; presented himself for the last time on April 30th, bringing thirty or forty more small calculi, which had been discharged from his back; and on May 28th he died, with symptoms of uræmic poisoning, under the care of Mr. Morley, through whose kindness I enjoyed the opportunity of being present at the *post mortem* examination. A small slough was passed *per urethram* a few days before death.

Autopsy, forty-eight hours after death. There was considerable emaciation. All rigidity had passed off. The heart was soft and flabby, otherwise apparently healthy; it was not opened. The liver was paler than natural; the right lobe was enlarged. The right kidney was more than twice the natural size; on section, it was pale, soft, and fatty, having undergone the fatty degeneration; the tubular portion was very indistinct; its capsule was adherent throughout. In the situation of the left kidney, which was not to be recognised, was a mass of almost cartilaginous hardness, from which, on pressure, a quantity of pus flowed. On section, it was seen to be riddled with abscesses, and contained numerous small calculi, like those which had been extracted from his back; and a few larger ones, which took the shape of the part in which they lay. Some of the smaller ones were firmly imbedded lower

a. Smaller calculi removed from the back.
b. Calculi removed from kidney after death. } Natural size.

down in the course of the ureter, as if on their way towards the bladder. When this hard mass was removed, one of the ribs was found to be denuded of periosteum. The right suprarenal capsule was apparently healthy; the left was not to be seen; nor was the ureter on this side at all distinguishable. The bladder was empty and contracted, healthy. The other organs (head not examined) were healthy. The calculi were composed chiefly of uric acid, with a small proportion of earthy phosphate.

Original Communications.

ON THE PATHOLOGY AND TREATMENT OF GALL-STONES.

By J. L. W. Thudichum, M.D.

[*Read before the Medical Society of London, October 17th*, 1859.]

Those who engage in *post mortem* examinations of the human body have not rarely an opportunity afforded to them of examining concretions in the gall-bladder or gall-ducts. These already for several centuries have engaged the attention of the learned, or roused the wonder of the curious. To either it must be a subject of astonishment that a large number of solid hard bodies should be met with, filling almost the entire cavity of a receptacle destined to hold a mild and innocuous fluid, and that yet there should have been no symptoms during the life of the individual who carried those concretions in his biliary organs, indicating their presence. There is no doubt that, in the majority of these cases, life came to a premature termination by some general disorder, not indeed produced by those foreign bodies, nor having any direct connection with the mere fact of their presence, but perhaps linked, however remotely, to the cause that originally produced them. Gall-stones, as we meet them in the dead body, are the residue of a pathological process, the nature of which it is then mostly too late to assertain by direct inquiry.

To many mortals, on the other hand, gall-stones prove by no means mild and innocuous customers, and by frequent and painful effects only too sensibly remind them of their existence. These painful and sometimes fatal attacks the physician is called upon to relieve, to heal, or, as the case may, be to prevent. Like the morbid anatomist, the practical physician has to deal with the consequences of a disease which is itself not the object of his immediate care. We may compare both investigators to the geologist, whose inquiry into the history of an outburnt volcano has to be carried on upon the ashes and the lava, or other rocky products, and upon the large features of their conformation. It is impossible to observe their direct genesis,—the fire that produced them is long since extinct.

An inquiry into the pathology of gall-stones is, therefore, mostly an inquiry into causes so remote and obscure, that the difficulties encountered in such a proceding are amongst the greatest which medical science has to battle with. Accordingly, our positive knowledge of those causes at present amounts to very little or nothing; surmise has taken the lead, and has assigned various causes, such as the predisposition of age and sex, the individual disposition or diathesis, which, like all diatheses, is but a circumlocution of the mystery. Among the alleged causes, we find climate, excess of rest and long sleeping, and unwholesome food, and a variety of other indifferent circumstances, which, on a stringent scrutiny, must stand aside as incompetent.

In thus acknowledging at the outset, that the primary disease which causes gall-stones is quite unknown, that it is not even ascertained whether the disorder is a local disease of the liver-cells, or a decomposition of the bile, analogous to those decompositions of the urine which produce the uric acid calculus, or a general disorder of the blood, or of the portal blood in particular, I do not mean to surrender all hope for a fair solution of the question in a comparatively short time. The study of the structure and composition of gall-stones has already taught us much; and, so soon as the chemistry of the liver and bile shall be well understood, we shall be in a position to approach the problem from both sides, during life and after death, by physiological research and experiment, as well as by the anatomical and chemical examination of the dead body.

Having instituted some inquiries in that direction, I have made such experiences as my limited opportunities and materials did admit of. One observation at least has been to me a fruitful source of reflection and information, and in communicating it to you linked to a few others of more practical import, I have consulted not only my wish to contribute an instalment towards the great capital of science which we are accumulating, but also my desire of profiting by the opinions and the advice of my professional brethren.

Case I. This case is one of several in which Mr. Holmes, of St. George's Hospital, kindly afforded me an opportunity of examining the livers and bile of deceased persons. The notes

relative to the case were given to me from the register of St. George's Hospital, by Dr. G. G. Rogers.

"Sarah Paine, married, aged 60, was admitted into St. George's Hospital, on June 23rd, 1858, under the care of Dr. Pitman. She had anasarca of the lower extremities, dyspnœa, and livid countenance. She stated that she had been ill six weeks, with pain at the chest and palpitation. Once or twice she spat a little blood. There was no history of rheumatism, but the action of the heart was violent, and a murmur could be heard at the apex, with prolongation of the first sound at the base. Digitalis was given with nitric ether and acetate of potass every six hours, and she was purged with calomel and jalap. This treatment relieved the dropsy, but the breathing grew more oppressed, amounting to orthopnœa. She got but little sleep, and was more harassed by cough. None of the urine could be saved for examination, but the cardiac symptoms were quite sufficient to account for the dropsy, and she had never been troubled with any diminution in the quantity of urine, pain in the loins, etc. As the breathing grew worse, a blister was applied between the shoulders; infusion of roses with dilute mineral acids being given to check the hæmoptysis. She sank within a week from the time of admission. (Signed) G. G. R."

"The examination of the body was instituted twenty-six hours after death. Externally, the body appeared in good condition. The subarachnoid space contained a good deal of fluid, and the brain was watery. Otherwise the cranial contents were natural. There was much fluid in both pleural cavities, and extensive adhesions in the right. The upper parts of both lungs were healthy, but both contained extensive extravasations of blood at their bases. This extravasation had consolidated all the base of each lung for the space of about an inch. The heart was of large size. The edges of the mitral valve were much thickened, especially on the auricular aspect, and the orifice so contracted, as only to admit the point of the forefinger. The aortic valves were also thickened, and very rigid. The ribs were much pressed in, apparently by tight lacing. The liver was (apparently) healthy, except that at its sharp edge a rounded mass, about the size of a walnut was found, which was of a semisolid consistence, and whitish colour, and contained the bags of numerous hydatids, attached to which, as I was informed (by Dr. Thudichum), the hooklets of the echinococcus were found in large numbers. The gall-bladder was large, and contained numerous gall-stones, but the duct did not seem obstructed. The spleen and suprarenal glands were healthy. The kidneys were healthy; except that there was a deep depression on the surface of the right, probably the mark of an old cyst. The abdominal aorta was extensively atheromatous. The ovaries were shrunken. The os uteri was closed by a plug of gelatinous lymph, and the cavity of the uterus contained some turbid fluid. (St. George's Hospital Register, 1858. No. 1623. P. M. E. No. 177.)

(Signed) "T. Holmes."

On examining the bile in the gall-bladder, I found it to consist of a homogeneous fluid, containing little colouring matter in solution, but a large amount of brownish-yellow colouring matter, together with many crystals of cholesterine were suspended in it. The bile and colouring matters dissolved in alcohol, yielding a yellow solution, which was separated from mucus and epithelium by filtration. The alcohol was distilled off, and the residue tested with sugar and sulphuric acid. But no colour-test could be obtained with the greatest care, and although the test was repeated several times: *there was not a trace of biliary acid in this fluid.* But it contained some margaric and stearic acids, which, together with the cholesterine, crystallized from the concentrated extract.

The gall-stones were sixteen in number. On dividing the largest one into two halves, I found a large nucleus of brown pulpy matter, which could easily be removed with the point of a knife, or washed away with a brisk stream of water from a wash-bottle or so-called blow-bottle. When collected in a white china dish, the matter appeared to be composed of thread-like fibres, of different diameters, some a quarter of an inch long; some shorter pieces were one-sixteenth of an inch in thickness. All were cylindrical, as if moulded in tubes; many had branches, others were divided dichotomically. The thinnest portions had a diffuse broom-like end, as if the matter had not had time or quality to solidify in the tubular form, or as if it had solidified in a bag-like enlargement of the cylinder, in which the rest of the cast was moulded. The matter composing these productions was granular, without a trace of crystallization of any kind; was purely yellow in the thinnest branches, but became the darker brown, the thicker the forms grew. All further description becomes at once unnecessary, by the faithful representations of the more striking portions which I have caused to be executed by Mr. Lens Aldous. Some forty or fifty medical gentlemen, to whom I had an opportunity of submitting both the specimens and their drawings, have borne witness to the

Casts of Biliary Ducts. Mag. 80 diam.

accuracy of the representation. All of them agreed with me that these peculiar formations can be nothing else but *casts of the biliary ducts.*

I had often searched human livers for some analogue to the casts of the uriniferous tubules, but in vain; and I should certainly not have dreamed of finding them in the centre of gall-stones. I have since examined many, but only old and dry gall-stones; most of them contain a nucleus of colouring matter, which has very great analogy to the matter forming the casts, but their shape I have not found repeated. It is indeed a mere chance whether such casts shall be preserved, or whether they, on being discharged from their place of formation, shall pass into the intestinal canal. And even where they arrive in the gall-bladder, and become entangled and covered with cholesterine, evidently a secondary occurrence, it is again a mere chance whether they shall not be so surrounded and interlaced by cholesterine crystals, that, on breaking the stone, they must necessarily come to pieces. They are so fragile, that the mere weight of a thin glass cover, as used for microscopical preparations, was sufficient to crush the thinner ones. When shaken in the watch-glasses, in which I kept them, moistened with glycerine, the mere friction of one against the other would damage and disintegrate the most characteristic feature. About half the number of gall-stones, and

among them some large sized ones, although containing a good brown nucleus, yet did not admit of the separation of characteristic casts, although among the *débris* I could distinguish fragments of casts with ease and certainty.

The material of the casts was not chemically homogeneous. Alcohol extracted a yellow portion; another portion, probably bilifulvine, remained. Some had a peculiarly ragged or variably projecting outline, which made me examine for cylindrical epithelial cells; but, however great the probability that such cells might adhere to the circumference, or enter into the body of the casts, being epithelium proper to the biliary ducts, certain it is that no such formations could be identified.

Numerous are the reflections suggested by this observation. The pathological process which effected the effusion of a congealing colouring matter into the biliary ducts was probably an acute one; if it involved only a portion of the liver, it probably presented itself at the time under the form of a true bilious attack, that is to say, a derangement of digestion, fever, headache, and a yellowish colouration of the skin, and albuginea of the eyes. If the process involved the greater part or the whole of the biliary ducts, it must have shown itself under the form of acute jaundice. It is not impossible, or rather probable, that those forms of idiopathic jaundice which hitherto have been ascribed to spasmodic closure of the duct, or to failing secretory activity, a sort of paralysis of the liver may hereafter find an explanation by the discovery of a real and material obstruction of the passages of the bile by formations similar to those which I have described. Frerichs saw a case of jaundice coming to a favourable crisis by the discharge of brown flakes and threads, which were very conspicuous upon the light coloured fæces, and ushered in the reappearance of the ordinary brown colour of the evacuations.

The branched calculi of Plater, and the branched gall-stones which Fauconneau-Dufresne in one instance discovered in the finer ramifications of the biliary ducts, have perhaps some analogy to the casts of the bile-ducts brought under your notice.

In continuing for a moment the consideration of the etiology of gall-stones, I beg to offer some fragmentary speculations on the possible or probable circumstances which may produce gall-stones. It remains yet to be ascertained whether a foreign body in the gall-bladder can simply predispose the cholesterine to crystallise upon it, or whether a change in the composition of the bile must precede that separation, as alkaline urine must precede the phosphatic incrustation of foreign bodies in the urinary bladder. There are cholesteric calculi containing pins, flukes, or ascarides as nuclei. I shall have an opportunity of bringing some experiments on this question before you on a subsequent occasion, as it seems to admit of a satisfactory solution. At present we must allow, that the nucleus being given, whether it be a foreign body, or casts of the biliary ducts, or amorphous precipitated colouring matter, or blood, or cast off epithelium, or even the problematical mucus—the subsequent crystallization of cholesterine may be either a consequence of the effects of the nucleus upon the bile and gall-bladder, or a continuation of the cause which produced the nucleus. The casts may have acted as foreign bodies simply, or the liver-cells, which effused the abnormal congealing matter, may have thrown out an excess of cholesterine, or bile incapable of holding the ordinary quantity of cholesterine in solution.

As there are gall-stones which possess no tangible nucleus, but consist throughout of pure pearl-white cholesterine, the circumstances under which cholesterine may crystallize from bile, are particularly deserving of investigation. Excess of cholesterine merely, which Chevreul thought to have found, though a very likely thing to occur, is in itself not sufficient to explain its precipitation; a change or destruction of its solvent, taurocholic acid, on its passage through the ducts and bladder, seems essential. This change may be produced by specific disease of the liver-tissue, by retention of bile and subsequent endosmotic changes, or by decomposition of bile from any cause. Bile, whether stagnating in the human body, or in a glass bottle, on decomposition setting in, gives up its cholesterine in a crystallised form.

This decomposition of the solvent of cholesterine, once set up in the gall-bladder, continues, like ammoniacal urine in the urinary bladder, to contaminate all fresh portions of bile poured out into the gall-bladder, and to precipitate their cholesterine, and often their colouring matter upon the centres of attraction. In this manner are formed the layers of gall-stones, which in their concentricity exhibit the periodical growth of the concretions. Mixed with the cholesterine layers are patches or layers of colouring matter, namely, bilifulvine and biliverdine, in various proportions and shades. Bistearate of lime in star-like crystallized small masses, and a little phosphate of lime mixed with shrivelled cylindrical epithelial cells, make up the list of constituents which we observe in the greatest number of ordinary gall-stones. Concretions, consisting of pigment, or inspissated bile, or of phosphate and carbonate of lime, have a different pathological, and by their rarity, less practical significance.

As a proof that the above considerations are at least in part based upon personal observations, I will mention the following cases as having afforded the starting point for my reflections.

Case II. In a female, dead from pulmonary phthisis, I found a globular gall-stone in the bladder, suspended in green thin bile. The concretion was white, like mother-o'-pearl, and there was no trace of a coloured nucleus. The whole seemed to consist of cholesterine, mixed with a trace of bistearate of lime, both uncoloured. It had not caused any symptoms during life.

Case III. In the liver of a boy, dead from general tuberculosis, with tubercles in all the organs (including the muscular substance of the heart, a very rare occurrence), I found lumps of mere inspissated bile and epithelium, formed in cysts, which, although communicating with afferent biliary ducts, yet had no outlet, and were evidently enlargements of a portion of the obliterated gall-duct.

The symptoms produced by gall-stones after their formation are so very characteristic and well known, that a repetition of general facts is uncalled for. Most of the lasting and obstinate symptoms centre in pain, due to inflammation or ulceration of the gall-bladder, or adjacent portions of liver or intestine. Distinct from these rarer chronic effects, are the more common manifestations of the passage of gall-stones into or through one or other of the ducts. The typical nature of these attacks mostly ensures their diagnosis. The pain and sickness, the band round the lower part of the chest, and other distinctly referred local sensations, indicate a gall-stone in the cystic duct. It may lodge there and close it for ever, and such an occurrence is not the worst issue of the disease. But when the gall-stone passes into the common duct, jaundice and vomiting, and more rarely a partial or entire absence of biliary colouring matter from the fæces, lead our diagnosis. In this manner small concretions may be got rid of; larger concretions, up to an inch in length or diameter, are more rarely passed in this manner. So far as I know, there is, however, no case on record of a person, who during life suffered well authenticated attacks of passages of gall-stones, and was after death found not to harbour some concretion in his biliary passages.

Gall-stones not rarely cause inflammation of the gall-bladder and adjacent portion of the liver. I have seen a circumscribed inflammation proceed to the peritoneal convex surface of the liver, and cause adhesion to the anterior abdominal parietes. When the exudation is more copious, and the process less chronic, abscess is sometimes formed, which happily mostly empties itself into the cavity of the duodenum, more rarely into some other portion of the intestinal cavity, or into the peritoneal cavity, and in this case with rapidly fatal effects. In some extremely rare cases the abscess proceeds along the urachus into the urinary bladder. A case in which the abscess opened into the duodenum has fallen under my observation. The patient discharged suddenly with the greatest relief a quantity of purulent fluid, mixed with the pills, which his attendants believed to have passed unchanged through his body. They were evidently gall-stones, but had been poured away before I could examine them. Even without this confirmation, the case left no room for doubt.

The following case, which I had an opportunity of treating for several years, and watching to its conclusion, will be an appropriate introduction to the important question of treatment. It shows that gall-stones may exist in the gall-bladder during forty years, produce recurrent attacks, and yet, with prudent living and medical assistance, the patient may live to eighty.

Case IV. In the year 1853, I was requested to attend a gentleman, aged 75, who, after having enjoyed excellent health for many years, was suddenly taken ill with the usual symptoms of the passage of gall-stones. On being questioned, he remembered having passed a gall-stone thirty-five years ago, which had been found bodily in the evacuations. Some slighter symptoms made a continuance of other concretions in the gall-bladder, during the whole time which had elapsed since that occurrence, very probable. With the use of opium and occa-

sional large draughts of warm water when the sickness seemed greatest, he recovered from that attack. The gall-stones, no doubt, passed successfully, which, from the presence of severe jaundice, is more probable than that they receded and returned into the bladder.

In the following year, he had another and more severe attack. It is probable that in this attack the false passage was formed from the gall-bladder to the duodenum, which I discovered at the *post mortem* examination, and the cystic termination of which enclosed an impacted calculus. The attack terminated with the discharge of gall-stones, brown biliary matter, and subsequent bilious diarrhœa.

From that time he began to take the celebrated mixture of turpentine and ether, and with so much apparent benefit, that during the subsequent four years the old gentleman allowed few days to pass without taking from half a drachm to a drachm of the mixture.

At the beginning of last winter his general health began to fail. A settled pain in the region of the gall bladder indicated chronic inflammation there. Notwithstanding all suitable treatment, he sank and died, very nearly eighty years old.

The *post mortem* examination revealed a gall-bladder full of calculi as the primary disease. Exudative plastic inflammation pervaded all neighbouring tissues.

The gall-stones were pulpy outside, and seemed to be made up of soft brown colouring matters; in the centre they were made up of crystallised cholesterine. I shew the dried bladder, containing one hard stone enclosed in the false passage. The others are removed. By this softness the theoretical value of the ether and turpentine mixture assumes a sort of empirical confirmation; although, on strict scrutiny, the direct solvent action of these substances cannot well be understood.

In the *symptomatic treatment of the passage of gall-stones* we have to rely mainly upon opium, which is sometimes better borne in the form of pills than that of tincture. We must carefully guard the patient from an overdose of this drug, which he is even more apt to take on his own account, from the torturing pain he is suffering, than the practitioner is likely to prescribe it. Nevertheless, severe narcotism sometimes follows large doses of opium—when the pain which caused them to be given suddenly ceases, from local causes. Such a case happened in Ireland some years ago, and was the subject of a painful legal inquiry. Happily, the life of the patient, who was a member of Parliament and a large estate proprietor, ended fatally only a few days after the severe narcotic symptoms had been successfully combated, so that the death and the narcotism stood in no immediate connection with each other. Whatever be our opinion, this case suggests caution.

Persons afflicted with dormant gall-stones should regulate their living in the most careful way possible, avoid all and every description of spirituous liquors, and let fruit and cereals, and light vegetables, enter largely upon their dietary.

In decided cases of gall-stones in the bladder, where continuous symptoms or repeated passages of concrements are observed, the surgeons should consider the propriety of planning and performing an operation for the extraction of these foreign bodies, either in a direct manner, or by forming a biliary fistula, and adopting a lithotriptic proceeding.

The operation is much slighter than lithotomy. Compared to such operations upon the abdominal organs as extirpation of ovarian tumours, it sinks into insignificance. If, for example, an incision was made a little above the lower edge of the liver, just large enough to admit the forefinger into the peritoneal cavity, the gall-bladder might be explored, and the presence or absence of calculi determined with the greatest certainty and the least danger. If calculi are present, the gall-bladder is seized with a small hook, pulled into the abdominal wound, and fixed there without being opened. In six days a good and passable fistula will be established, which, after a fortnight or three weeks, will be sufficiently consolidated to admit of the introduction of an instrument, by which such soft calculi may easily be crushed. The calculi once removed, I make no manner of doubt that the fistula would heal up by itself. I am certain that, with proper care and dexterity, surgeons might make a number of these operations successful, and have few failures; considering always that cases suitable for the operation would perhaps be half as common as cases for lithotomy.

Before knowing the cause and origin of gall-stones a little better, prevention is out of the question. But general hygiene will here do as much as in other diseases.

The above remarks may, perhaps, appear insignificant to gentlemen of longer experience, and the results of my researches small to those possessing more extensive opportunities than myself. I hope that such of my hearers as enjoy either will make up my deficiencies. If, in full consciousness of these latter, I have nevertheless come forward, I have done so upon the principle that, however small our light, we ought not to put it under the bushel, but let it shine before the people. Should it be very dull, then I hope that my friends, in the discussion, will give it the benefit of a suitable trimming.

PATHOLOGICAL AND THERAPEUTICAL CONSIDERATIONS RELATIVE TO INFLAMMATION AND FEVER.

By C. Handfield Jones, M.B., F.R.S., Physician to St. Mary's Hospital.

In the following pages I shall attempt to give a *rationale* of the principal phenomena observed in inflammation and fever, with particular reference to recent neuro-pathological researches.

1. It is well known that the arteries of the abdominal and pelvic viscera, of the thoracic, and of the encephalon, are surrounded with nervous plexuses derived from the sympathetic system. The filaments of these nerves accompany the vessels to their finer ramifications, if not to their ultimate; and are distributed to their coats in no inconsiderable measure. In the limbs the arteries are accompanied by no such distinct sympathetic plexuses; the cerebro-spinal cords appear to take their place. By microscopic examination I have found that nerve filaments, in all respects similar to those of the visceral sympathetic, are given off from the finer ramifications of the cerebro-spinal nerves. They are in all probability distributed much in the same manner as the visceral nerves above mentioned. As branches from the ganglia of the sympathetic join the spinal nerves, it is no more than might have been expected that they would appear again at the peripheral expansions of the latter. The external carotid artery is surrounded by a plexus which accompanies each of its divisions. These are, therefore, similarly circumstanced to the visceral arteries of the three great cavities, which might have been anticipated considering their distribution.

In structure, the sympathetic nerves are found to consist of two kinds:—white tubular fibres, evidently identical with cerebro-spinal; and nucleated nerve bands, peculiar to the ganglionic nerves. The latter are known as fibres of Remak, and their nervous character is denied by several authorities. Bidder and Volkmann describe another variety of fibres which may be distinguished as the "fine tubular," and which they regard as peculiar to the sympathetic system. These have not the double contour, and are but half the size of the ordinary cerebro-spinal. I agree with Todd and Bowman, in adopting Remak's view. However this be, it seems unquestionable that there are fibres in the sympathetic derived from the cerebro-spinal system, as well as others which arise in the various ganglia belonging to it. Anatomically, therefore, the sympathetic is a compound nerve, partly independent, and partly an offset of the nervous system of animal life.

2. Physiological observation accords with the above data, and extends them. The connection of the ganglionic nerves with the *tissues* of the part to which they proceed is proved by the influence of stimuli acting upon these nerves, or their centres, to excite muscular contractions or glandular secretion; and by the occurrence of pain, or reflex movements, when irritation is set up in the mucous surfaces, or other parts. The movements of the intestines and heart are unquestionably capable of being influenced by stimuli applied to their sympathetic nerves, or the related ganglia. The flow of gastric juice, of bile, and of pancreatic fluid, is produced by the stimulation of the mucous surface of the stomach and duodenum by the food. This stimulation is reflected through their nerves upon the several glandular organs. An irritant purgative causes griping pain and increased peristaltic motion. Muscular contractions can be influenced, in parts supplied with ganglionic nerves, by impulses originating in the brain or spinal cord: and conversely, the states of organs supplied with ganglionic nerves make themselves felt in the cerebral and spinal nervous centres. The effect of emotions upon the heart and the intestines is notorious, as well as the influence of intestinal disorder in producing headache, amaurosis, or tinnitus aurium, and of worms in causing convulsions.

The control exercised by the sympathetic nerves upon the vessels they accompany is very apparent in blushing, and in many pathological phenomena which will be hereafter alluded

to. The most striking evidence of this is, however, afforded by the experiments of Bernard. It is well known that in paralysis from disease of the brain or spinal cord, the temperature of the paralysed parts, as a rule, is lowered. This was found to occur when the anterior or posterior roots of the spinal nerves, or the root of the fifth pair, or that of the facial, were divided. The loss was not very considerable, varying from about 3° to 7° of Fah. When the sympathetic nerve in the neck was divided, or the superior cervical ganglion extirpated, the following phenomena were observed. The temperature of the operated side increased rapidly, and in a quarter of an hour after the operation had risen 11° Fah. The arteries and small vessels dilated, and became much more full of blood than those of the opposite side; the pupil contracted, as well as the palpebral opening, while the globe of the eye appeared depressed in the orbit. The hyperæmia which is the immediate result of the operation subsides considerably in a day or two; but the elevation of temperature is much more persistent, lasting, in rabbits, sixteen to eighteen days; in dogs, six weeks to two months. Not only the superficial parts, but the deep seated, and even the blood returning by the jugular vein, can be shown to be hotter than the corresponding parts of the healthy side, or than they themselves were previously. It is an important circumstance, observed by Bernard and Brown-Séquard, that the temperature on the sound side falls below its previous figure; the difference in one experiment amounting to 5½° Fah. The phenomena now described are more prominently marked in healthy and vigorous animals than in those that are weakly, and in those that are digesting food than in those that are fasting. When an animal whose cervical sympathetic has been divided on one side is exposed to a temperature above that of its own body, the side where the nerve is entire gains heat, while the the other remains almost unchanged, and before long no difference can be detected by the thermometer between the two. On the other hand, when an animal similarly circumstanced is placed in a medium considerably colder than its own body, the difference between the normal and the operated side becomes more prominently marked. The former loses heat much faster than the latter, and the thermometer shows that it may become as much as 21° Fah. colder than its fellow. If the upper end of the divided sympathetic is galvanised, all the effects produced by the previous operation disappear, and are replaced by their converse. The pupil dilates, as well as the palpebral opening, and the eyeball projects from the orbit. Instead of being active, the circulation becomes weak; the conjunctiva, nostrils, and ears, which were red, become pale. The temperature falls below the normal figure, while, curiously enough, that of the opposite side increases notably. According to Brown-Séquard, the effects produced by a transverse lateral section of half the spinal cord, in the dorsal region, on the posterior limb of the corresponding side, are exactly similar to those we have been considering. The condition, also, of the opposite sides in both cases is quite similar: "both receive less blood than usual, their temperature diminishes, their nutrition is less active, and their vital properties also diminish." Bernard remarks, that although he has watched, for a length of time, animals who had undergone division of the cervical sympathetic, he has never seen any œdema or inflammatory action supervene in the abnormally hot parts so long as the animal continued in good health. But if they fell sick, either spontaneously, or from the effect of other operations, the mucous membranes of the eye and nose, on the operated side *only*, became very red, swelled, and poured out purulent matter abundantly. If the animal's health improved, these inflammatory phenomena ceased. This highly important observation I can quite confirm from my own experience. A cat, on which I operated, had severe purulent ophthalmia of the left eye for five or six days, after which it spontaneously declined. Sixteen days after the operation the left ear was 15° Fah. hotter than the right. She had been debilitated by an unsuccessful attempt to divide the renal nerves on one side.

The cause of the elevated temperature of the parts lying in the range of the divided sympathetic is attributed by Brown-Séquard and Walter to the increased afflux of blood, to the hyperæmia. Bernard, however, opposes this view, because the temperature does not vary when the hyperæmia declines; because hyperæmia occurs when the fifth nerve is divided, but is attended with diminished temperature; because ligature of the veins of each ear, and consequent gorging of the vessels with blood, lowers the temperature of the parts, which again rises on the side on which the sympathetic is subsequently divided. It is true that if the carotid is tied, and the sympathetic afterwards divided on the same side, no calorification takes place; but if the sympathetic be first divided, and calorification have come on, ligature of the carotid does not lower the temperature to that of the sound side.

Another argument which may be used in support of Bernard's opinion, is, that the temperature in the paralysed parts exceeds by 2° or 3° in some cases, the normal temperature of internal parts, as of the rectum. On the whole, it seems to me decidedly most probable that the increase of heat is not due solely to hyperæmic afflux, but that accelerated tissue-change also plays a considerable part in its causation.

Bernard doubts that the effect of dividing the sympathetic is to paralyse the arteries, and so cause their dilatation; he states, on the contrary, that the first perceived effect is the contraction of the carotid, and he looks on the subsequent dilatation of the vessels as the result of an afflux of blood to the part*. However, the contraction of the pupil, which is doubtless occasioned by the loss of the antagonist action of the radiating fibres of the iris, seems to indicate that the withdrawal of the influence of the sympathetic does tend to paralyse contractile tissues, and the very positive result of galvanising the divided nerve supports the same idea. There is nothing anomalous, as Bernard seems to think, in arterial paralysis promoting more active circulation. On the contrary, it is perfectly evident that the only result of arterial action must be to diminish the afflux of blood to the part. This is well seen when the arteries in the frog's web are made to contract by the application of cold; whole tracts of capillaries appear empty and deprived of blood. On warming the web, the arteries immediately dilate, and pour in blood abundantly. When a nervous trunk is divided, for instance, the sciatic, containing motor, sensory, and sympathetic fibres, all the changes are produced which naturally result from the suspension of the influence of these several fibres. However, the calorification in this case is somewhat diminished by the refrigerating tendency of the paralysis of the motor and sensory fibres.

Analogous experiments made by other observers are strongly corroborative of Bernard's statements. Jaschkowitz shows that section of the sympathetic plexus of the spleen causes congestion of blood, softening, and tension of the capsule. If part only of the plexus is divided, the corresponding part of the spleen only is affected. Samuel, in experiments upon rabbits, dogs, and cats, found that the hyperæmia of the intestinal mucous membrane, produced by extirpation of the cœliac plexus, was so great, that it exceeded all pathological hyperæmias hitherto known. The secretion of the mucous membrane is increased by the operation, but not to the same degree as in violent diarrhœa. Wharton Jones finds that after removal of the lower part of the spinal cord, and the roots of the nerves, the arteries of the webs in a frog retain all their contractility, or are even more than usually disposed to be constricted. If now the ischiatic nerve be divided on one side, "the result is that the skin of the extremity subjected to the experiment becomes, even to the naked eye, redder from vascular congestion than that of the opposite extremity, and on examination of the web under the microscope, the arteries are found considerably dilated. In the web of the opposite extremity, on the contrary, the arteries are seen still much constricted, some even to closure."

Practical conclusion. Paralysis of the vaso-motor nerves of any organ may throw that organ into a condition of hurried and disordered nutrition, attended with hyperæmic afflux; and, if the part be predisposed, actual severe inflammation may result.

3. Attention has lately been directed by Pfluger and Lister to certain nerve phenomena, which the former terms inhibitory *(hemmungs)*, and supposes to belong to a certain set or system of nerve fibres, whose sole function is to arrest or diminish action. Lister, on the contrary, concludes from his inquiries *(Proceedings of the Royal Society*, No. 32, page 367), "that one and the same afferent nerve may, according as it is operating mildly or energetically, either exalt or depress the functions of the nervous centre on which it acts. It is, I believe (he says), upon this that all inhibitory influence depends, and I suspect that the principle will be found to admit of a very general application in physiology." The following are instances of inhibitory action. The poles of a galvanic apparatus being fixed to the spinous processes of the ninth and twelfth dorsal vertebræ of a rabbit, currents were passed through the spine (of course affecting the cord), with the effect of inducing "complete relaxation and quiescence of

* Plus tard cette artère et ses divisions deviennent plus grosses et sont en quelque sorte distendues par un appel de sang qui se fait dans les parties correspondantes; mais cet effet, loin de ressembler à une paralysie, amène une circulation plus active. (P. 509.)

the small intestines, which had been previously in considerable movement, while the muscles of the limbs were thrown into spasmodic action, but on the discontinuance of the galvanism, the previous intestinal motion returned." Weaker currents were then passed, and "markedly increased the action of the intestines in every instance during the first twenty-five minutes." In the next half hour the increase of action from the galvanism, though still distinct, was less strongly marked, and "at the end of that period" with stronger currents, "the inhibiting influence was also found to be much less complete than before, indicating that the parts of the nervous apparatus concerned were in a less active condition, no doubt in consequence of exhaustion." Increased movements of the intestines were produced by direct irritation of the cord with a fine needle. It was very worthy of remark, that violent struggling of the rabbit, "when the intestines were in pretty free movement, was followed by absolute and universal quiescence of those organs for several seconds." This showed that an inhibitory action was capable of being produced naturally as well as artificially.

The slowing or arrest of the action of the heart by irritation of the vagus, seems to be due to an action of this kind, *Vide* Bernard's experiments (*Leçons sur le Système Nerveux*, tome ii, page 392.)

In a paper on inhibitory influence published in the British Medical Journal, February 5th, 1859, I have endeavoured to show that pathological phenomena are not unfrequent, which seem to be of this character. I modify, however, the statement of Mr. Lister, so far as to believe that it is not the energetic operation of an afferent nerve that causes inhibitory action, but its being injuriously affected by some impression made upon it. The enfeebled state of the nerve itself, or of the centre to which it proceeds, or the severity of the impression may give rise to the peculiar effect. Instances are quoted further on (p. 106), of inhibitory paralysis resulting from cold, and the following is a good instance of the same occurrence from another cause.

O. J., male, aged 37, got a whitlow on last phalanx of left thumb, the lymphatics were inflamed, and the axillary glands swelled, the whole arm was very painful. While the limb was in this state, one morning he found that he saw double, and had a squint in the left eye. At the Ophthalmic Hospital, it was found that the external rectus muscle was completely paralysed, and he had severe circumorbital pain. It was supposed that there was periosteal inflammation about the orbit, and iodide of potassium was given; the whitlow was poulticed, and the arm fomented. After a month of this treatment, there was no improvement of the eyes, but the arm inflammation had quite subsided. A piece of dead bone was now removed from the seat of the whitlow; soon after which the squint disappeared, as well as the pain in the arm, and about the orbit. The external rectus had quite recovered its power. (*Medical Times and Gazette*, January 29th, 1859.)

Dr. Watson refers to the production of amaurosis without visible change in the eye, in consequence apparently of the dental irritation, the blindness ceasing after the extraction of some teeth which had grown irregularly. He quotes from Mr. Lawrence an interesting case in which the extraction of a carious tooth with a splinter of wood projecting from one of its fangs procured the restoration of the sight of the eye of the same side which had been lost entirely for thirteen months. In such cases, the paralysis of the retina on the optic tubercles may fairly be designated inhibitory. Two cases of amaurosis, and one of ptosis, are recorded by Mr. Hancock (*Lancet*, January 22nd, 1859), as cured by the removal of decayed or overcrowded teeth. The pathology of these is no doubt the same. In the same communication, a case of lockjaw, and of extreme wry neck, are mentioned, as having yielded to the same measure. This shows that it depends very much on the condition of the nervous centre which is affected, what the result of an irritation shall be, whether paralyzing, or exciting. So, in some persons, opium causes powerlessness (a degree of paralysis), in others, it tones and prevents fatigue.

Practical conclusion. The nervous centre connected with a motor, vaso-motor, special sensory, and probably with a common sensory nerve, may be incapacitated from its function in consequence of an irritation transmitted from some distant part. Such paralysis may be termed *inhibitory*.

4. The phenomena of fully developed inflammation, as seen by the naked eye, are notorious, and do not require description here. The heat, redness, pain, and swelling, are accounted for by the hyperæmia and the exudation; some part, however, of the excess of heat being probably due to increased metamorphic processes taking place in the inflamed area. The phenomena observed by the aid of the microscope are as follows. After the application of the irritant (I used dilute liquor ammoniæ or its vapour), the blood is seen to traverse the capillaries more and more slowly, to oscillate, and at last to stop, the corpuscles becoming all compacted together into a red mass. It is abundantly evident that the arrest is not caused by the sticking of red or white corpuscles to the capillary walls, but by the interruption of those conditions which in health make the transit of the blood-globules easy; or, perhaps, by the setting up of a morbid attraction. It is equally manifest that neither contraction nor dilatation of the arteries or veins has anything to do with the production of stasis, at least of inflammatory stasis. The starting point of this is clearly from the capillaries. The stasis of blood may affect at first only a few capillaries, gradually it spreads and becomes very extensive. If a strong irritant is freely applied at once, stasis takes place almost immediately; too quickly to observe its mode of production. All around the stasis the circulation goes on very actively. The blood in the seat of stagnation is of a darker red than natural. During complete and universal stasis, the blood is seen sometimes flowing backwards in the veins, as if attracted towards the inflamed part, while at the same moment the arteries are pouring in fresh streams. At other times the current in the veins is only more or less retarded. The arteries may be seen in various states, either normal or slightly contracted, or empty and contracted, to one half or less of their diameter, or they are filled up with stagnant red globules, or they exhibit red corpuscles moving to and fro, driven forward by the heart's impulse, and again receding. The two latter states are often consecutive, the first being observed in complete repletion and stasis. When resolution takes place in a part, the blood which was stagnant and filled up the capillaries, begins at first to move very slightly, presenting a feeble oscillation. It has lost its adhesion to the walls of the vessels, but the corpuscles still adhere to each other. The oscillation increases, the obstructing mass is pushed onward, and projects into some vessel which is traversed by moving blood. The corpuscles separate from each other, sometimes one or two are swept away in the current at a time, sometimes a small clot containing several. At last all are dispersed, except perhaps some red corpuscles, which still adhere to the side of the vessel by their flat surface, or as I once saw, by one extremity. Adhesion of some red corpuscles to the capillary walls may be seen where the stream is slackening in commencing stasis, but it is most evident that the cause of the stasis is not mere adhesiveness or mechanical obstruction. The epithelium of the inflamed web becomes manifestly more opaque and granular, and often separates. Mr. Lister has observed that the pigment in the frog undergoes a remarkable change in an inflamed area, becoming diffused into the radiating processes of the containing cells, while in healthy parts it is concentrated around the nucleus. The same effect is produced by division of the sciatic nerve, so that the change seems to indicate a loss of power in the cell comparable to the paralysis of a muscle. Additional evidence is thus furnished of the loss of functional power resulting from inflammation.

It is probable that in all inflammations, of whatever character, or however caused, the visible phenomena are such as above described. Only it must be remembered, that in inflammations, such as we ordinarily meet with in warm-blooded creatures, there is not the same amount of stasis as is seen in the frog's web. This is an extreme result tending in the direction of gangrene. The vitality of the inflamed tissues is lowered, they are more or less incapacitated for functional operation, their nutrition is arrested, and in consequence, their cohesive power is impaired, and they become soft or brittle. It is quite certain that during inflammation the afflux of blood to the part is vastly increased, as proved by Lawrence's well-known experiment. The throbbing of the arteries so often spoken of as increased action is really, as far as regards themselves, a proof of debility; a sign that they yield more than they would in health to the increased impulse of the heart. In many inflammations, notably in the subcutaneous phlegmons, large or small, the tendency to suppuration is very marked, and when once the inflammation is fairly set up, extremely difficult to withstand. Until suppuration has occurred, it is found impossible to arrest the hyperæmic afflux, but when this has taken place, and the pus has escaped, it subsides spontaneously. It really seems as if a morbid development of force took place in the inflamed part, which did not subside until it had spent itself in cell production.

[*To be continued.*]

A Course of Lectures
ON
URINE, URINARY DEPOSITS, AND CALCULI.

DELIVERED AT THE PATHOLOGICAL LABORATORY, DURING THE SESSION 1857-58.

BY

LIONEL BEALE, M.B., F.R.S.,

PHYSICIAN TO KING'S COLLEGE HOSPITAL; PROFESSOR OF PHYSIOLOGY AND GENERAL AND MORBID ANATOMY IN KING'S COLLEGE, LONDON; ETC.

Lecture IV.

URINE IN DISEASE. *Arrangement of the Subject. Diathesis.* EXCESS OR DEFICIENCY OF WATER AND THE ORGANIC CONSTITUENTS PRESENT IN HEALTH. *Excess of Water: Diabetes Insipidus: Deficiency of Water: Increased Acidity of Urine: Principles of Treatment: Nitric Acid in the Urine: Ammonia: on Detecting Urea in the Blood or Serum: on Detecting Ammonia in the Breath: Urea; Excess of Urea; Deficiency of Urea: Colouring Matter: Excess of Uric Acid and Urates: Principles of Treatment: Extractive Matters: General Remarks on the Increase of the Organic Constituents, with Analyses: Analyses of Urine in Chorea: Analyses of Urine in Skin-Disease.* EXCESS OR DEFICIENCY OF THE INORGANIC CONSTITUENTS PRESENT IN HEALTH. *Chloride of Sodium; its Diminution in Acute Inflammations: Sulphates; Increase in Cases of Chorea, Rheumatic Fever, etc.: Influence of Remedies: Alkaline Phosphates; Increased Secretion of Alkaline Phosphates in Inflammation of the Brain; Analyses; Earthy Phosphates; Increase in the Urine of Cases of Mollities Ossium; Analyses.*

[*Continued from page* 852.]

EXCESS OR DEFICIENCY OF THE INORGANIC CONSTITUENTS.

In disease, the inorganic salts vary greatly in quantity. Sometimes the saline constituents are very deficient. This deficiency may depend upon the nature of the food, or it may be due to the *formation* of a diminished proportion of some of the salts in the organism. The sulphates, and the phosphates in part, being formed in the body, will vary under many circumstances. In some conditions of the system, when much disintegration of tissue takes place, a greater quantity of sulphur and phosphorus is oxidised, and the corresponding acids are formed in unusually large proportion, and excreted in the urine. In certain inflammatory conditions of the system, it would appear that the chloride of sodium, being required at the seat of these changes in considerable quantity, is prevented from passing off from the system in the urine. In certain cases of disease of the kidney, it is important to notice if the proportion of the saline constituents to the organic matter is very much increased. In some states of renal disease, in which the secreting structure of the kidney is so much impaired that the separation of urea and organic matter is very much interfered with, a proportion of saline matter considerably larger than the urine contains in health, escapes.

Let me now draw your attention to some of the most important variations in the excretion of saline matter in disease.

Chloride of Sodium. The fluctuations observed in the quantity of common salt excreted in the urine are very great even in health. The circumstances which affect the proportion of chloride of sodium are very numerous, and these are greatly increased in disease. It was found by Redtenbacher, many years since, that in pneumonia the quantity of chloride in the urine gradually decreased as the inflammation advanced; and that in many instances, when the lung became hepatised, not a trace could be detected in the urine. Some years ago, I determined quantitatively the amount of chloride in the urine from day to day in cases of acute pneumonia, and the following case illustrates very well the changes which occur in the urine in this affection.

The patient was a plasterer, aged 24, and was under the care of Dr. Budd. On the third day of the disease, there was dulness two inches below the left mamma in front, and behind over the space below the spine of the scapula. Bronchial breathing and bronchophony were audible over the lower angle of the scapula. Expectoration viscid, frothy, and slightly rusty; pulse 144, small and weak; respirations, 52.

On the fourth day of the disease, bronchial breathing and bronchophony were more distinct. Pulse, 116; respirations, 28. He was treated with small doses of antimonial wine, and was put upon milk diet and beef-tea. Turpentine stupes were applied to the chest. He progressed favourably, was convalescent within three weeks after the commencement of the attack, and was discharged well in little more than four weeks.

13. *Fourth day* of the disease. Urine high coloured; acid; specific gravity, 1017; contained a little albumen.

14. *Fifth day.* Acid; specific gravity, 1013; natural colour.

15. *Sixth day.* Acid; specific gravity, 1016; pale; still contained a trace of albumen.

16. *Tenth day.* Acid; specific gravity, 1022; no albumen.

17. *Twenty-second day.* Acid specific gravity, 1016; pale; no albumen.

Analysis.

	13		14	15	
Water . .	956·60		957·40	954·00	
Solid matter .	43·40	100·00	42·60	46·00	100·00
Organic matter	40·28	92·82		44·64	97·05
Fixed salts .	3·12	7·18		1·36	2·95
Chloride of sodium	0		traces	0	

	16		17	
Water . . .	955·00		968·40	
Solid matter .	45·00	100·00	31·60	100·00
Organic matter .	42·12	93·64	23·26	73·61
Fixed salts . .	2·88	6·4	8·34	26·39
Chloride of sodium .	0		4·56	14.43

The decrease of the fixed salts generally, during the stage of hepatisation is remarkable. The last analysis of the urine, when the patient was well, shows the healthy proportion. In vol. xxxv of the *Medico-Chirurgical Transactions* will be found several other cases showing similar results. In some of the cases, it was shown that, although there was not a trace of chloride in the urine, and the blood contained less than its normal proportion, the sputa were very rich in chloride of sodium. In one case, it amounted to upwards of 18 grains in 100 of the solid matter of the sputum. In a fatal case, much chloride was found in the products effused into the air-cells of the lung. In most exudations, and in growing tissues, there is a considerable amount of chloride of sodium. In acute inflammations generally, the proportion of chloride in the urine gradually diminishes until the disease is at its height. When resolution occurs, the chloride reappears, and gradually increases as convalescence advances, until it attains its normal standard. The amount of chloride in the urine is much influenced by the nature of the food, and by the quantity of fluid taken, as remarked when considering the chloride in healthy urine; but the results above described cannot be explained in this manner; for, although patients take less food when they are ill, and therefore less salt, the same results are observed if salt be given to them. Moreover, the disappearance is gradual, and the reappearance is marked by a change in the symptoms of the disease, although the food has remained the same during the whole period of the illness. I have expressed the opinion that, in all probability, the chloride is attracted from the blood in undue proportion to the point where the inflammatory changes are taking place; and that, instead of passing through the organism as it does in health, it accumulates at this point until a certain stage of the morbid process is passed, when it is reabsorbed into the blood, and excreted by the ordinary channel. The precise office which the salt plays in these processes is not understood; but certainly, in all the specimens of inflammatory lymph that I have examined, I have always found common salt present in large quantity. In many cases of bronchitis, acute rheumatism, pleurisy, in some cases of skin-disease, and in some other instances in which its absence would appear to be merely an accidental circumstance, no salt can be detected in the urine. We cannot, therefore, regard this diminished proportion or absence of chloride in the urine as a point of any value in the diagnosis of pneumonia, although it must be looked upon as a fact of great interest with reference to the morbid changes which are taking place at the time. The conclusions to which I arrived, after examining the urine, blood, sputum, and inflammatory products, in several cases of pneumonia, are as follows:

1. That in pneumonia there is a total absence of chloride of sodium from the urine at or about the period of hepatisation of the lung.

2. That, soon after resolution of the inflammation, the chloride is again present in the urine, and often in considerable quantity.

3. That, at this period (resolution), the serum of the blood is found to contain a greater amount of chloride than in health.

4. That the presence of chloride of sodium in the urine may be taken as evidence of the existence of a greater quantity of the salt in the blood than is required for the wants of the system generally, or, at least, of an amount sufficient for that purpose; and that the absence of the salt from the urine indicates that the circulating fluid contains less than the normal quantity.

5. That the sputa in pneumonia contain a greater quantity of fixed chloride than healthy pulmonary mucus, if there be not much less than a normal amount in the blood, although there be a complete absence of the salt from the urine. In all cases, however, there is found in the sputa a quantity many times greater than exists in an equal amount of blood at the same period of the disease. The absolute amount present is subject to variation at different periods of the disease, and in different cases.

6. That, in one case which was fatal, the proportion of chloride present in the sputum underwent a decrease, while the amount of solid matter, and especially the extractive matters, increased in quantity. At the same time, the sputum became acid; and in the matters expectorated within the last few hours of the patient's life, a large quantity of grape-sugar was found; but, in that obtained on the day previous to his death, none could be detected.

7. The absence of chloride of sodium from the urine during the stage of hepatisation seems to depend upon a determination of this salt to the inflamed lung; and, when resolution occurs, this force of attraction ceases, and whatever salt has been retained in the lung is reabsorbed, and appears in the urine as usual.

Analysis 18 represents the composition of the urine in an extreme case of *elephantiasis Græcorum*, occurring in a boy about twelve years of age, who was in the hospital some years ago, under Dr. Todd. The emaciation was extreme, and there were a great number of large ulcerated tubercles all over the body, which discharged freely. The absence of the chloride may perhaps be accounted for by the presence of exudation and cell development at the bases of these numerous ulcers. The urine was acid; specific gravity 1020.

Analysis 18.

Water	960·0	
Solid matter	40·0	100·00
Fixed salts	4·51	11·27

The ash consisted of sulphates and phosphates, with a mere *trace of chloride.*

Analysis 19.

Another specimen about two months after the last. Specific gravity, 1014; acid.

Water	965·1	
Solid matter	34·9	100·00
Urea	13·97	40·02
Extractives	16·06	46·01
Uric acid	·31	·88
Alkaline salts	4·07	11·66
Earthy salts	·49	1·40
Sulphuric acid	·422	1·20
Phosphoric acid	1·389	3·98
Chloride of sodium	*not a trace.*	

It is difficult to account for the absence of the chloride in the following analysis. The urine was obtained from a woman aged 31, suffering from hysterical coma. About eleven ounces were drawn off by a catheter. The patient was quiet; skin cool; tongue covered with a thick white fur; pulse 135; respiration 18; sensation very much impaired. The patient did not notice a very severe pinch with the nails.

Analysis 20.

Water	921·41	
Solid matter	78·59	100·00
Uric acid	·57	·72
Urea extractives, etc.	67·70	86·15
Fixed salts	10·32	13·13

The salts contained sulphates and phosphates, but *not a trace of chloride* was present.

Sulphates. I have already observed that the proportion of sulphates usually varies according to the urea; and it follows that, in diseases characterised by a considerable disintegration of muscular tissue, we shall find an unusual amount of sulphate in the urine. In *chorea*, the increase of the sulphate and urea is often very considerable; but there are conditions in which the increase of the sulphates does not appear to be associated with the formation of urea to a correspondingly large amount. An increase in the quantity of sulphate in the urine, in cases of *rheumatic* fever, is noticed in some of Dr. Bence Jones's analyses. In one case, on the fifth day, the urine had a specific gravity of 1026, and yielded 11·89 grains of sulphate of baryta. Dr. Parkes has shown, by some very careful experiments on four cases, that in rheumatic fever the sulphuric acid is greatly increased. In one case, 52½ grains of sulphuric acid and 5½ grains of unoxidised sulphur were excreted in twenty-four hours. The urea was not increased in the same degree. This increase of sulphate is not observed in typhoid fever and scarlatina. It *does not*, therefore, depend merely on increase of temperature. Dr. Parkes suggests that in the blood, in acute rheumatism, there may exist a material richer in sulphur than albumen. Potash increases the tendency of this substance to disintegrate; and hence, whenever liquor potassæ is given, the proportion of sulphates in the urine is augmented.

Urinary constituents.	Condition in rheumatic fever.	Effect produced by liquor potassæ in large doses.
Solids	Increased	Still more increased
Water	Greatly diminished	Slightly increased
Uric acid	Increased	Slightly increased
Sulphur	In considerable quantity	Probably increased
Chlorine	Diminished	Unaffected
Sulphuric acid	Greatly increased	Still more increased*

In many cases of skin-disease, I have found the relative proportion of the sulphates to be considerably augmented. This is well illustrated in Analysis 5, which gives the composition of the urine of a boy suffering from eczema.

[*To be continued.*]

Transactions of Branches.

SOUTH-MIDLAND BRANCH.

ŒDEMA OF THE GLOTTIS, FOLLOWING THE ACCIDENTAL DRINKING OF SULPHURIC ACID: TRACHEOTOMY: WITH REMARKS ON THE OPERATION.

By E. LAWFORD, M.D., Leighton Buzzard.

[*Read October 6th*, 1859.]

I WILL, with your permission, call the attention of the members to a case which occurred in my practice, in which inflammation and œdema of the glottis followed the accidental swallowing of sulphuric acid, and in which the operation of tracheotomy was resorted to, in order to relieve the symptoms of impending suffocation. I will then make a few remarks on the danger and difficulty attending this operation; on the surgical appliances which have been introduced for the purpose of simplifying it; and I will lastly call your attention to an instrument made for me by Mr. Coxeter of London, calculated to steady the windpipe at the moment of its division, to prevent the injurious effects of pressure, and to act at the same time as a director for the knife.

In the month of July 1852, I received a hasty summons to attend on a young person of about fourteen years of age, who was reported to have taken poison. On arriving at the house, I found her labouring for breath; the respiration was noisy and croup-like; and, on examining the mouth, I found the lips excoriated, and the lining membrane of the mouth and fauces of a white or ash colour. There was intense pain in the region of the windpipe, and, in fact, every symptom of poisoning by a corrosive irritant.

On inquiry, I found that the patient had arrived home fatigued from a long walk; and, seeing a ginger-beer bottle on the table, she had taken for granted that it contained ginger-beer,

* The influence of liquor potassæ on the urine in rheumatic fever. (*Med.-Chir. Review*, vol. xiii, page 248.)

and had attempted to drink some of it. No sooner, however, was the fluid (which turned out to be the vitriol of commerce) introduced into the mouth than it was ejected with violence; and the symptoms and signs which I have mentioned presented themselves immediately. In an hour from the time of the accident, the breathing became somewhat more quiet; the noisy respiration, which appeared to result from the spasmodic contraction of the glottis, had in some measure subsided; the patient was able to swallow liquids; and, consequently, carbonate of magnesia with water was administered, alternated occasionally with milk, gruel, and oil.

The patient passed a restless and distressing night, and in the morning I found marked symptoms of laryngitis. There were restlessness and anxiety depicted in the countenance, occasional attacks of spasmodic breathing, difficulty of deglutition, husky voice, crowing inspiration, and occasional cough. The mucous membrane of the palate was congested and swollen. Some powders, consisting of calomel, opium, and antimony, were prescribed; hot fomentations were applied over the region of the larynx, and a blister at the back of the neck; and a light nutritious diet was given during the day. The symptoms continued the same during the day, with the exception of some increase of restlessness as evening advanced; but during the night they increased in severity, and it became evident that asphyxia was setting in. There was great exhaustion. The pulse was quick and small; cold skin; clammy perspiration; and lividity of the countenance. The patient was, in fact, sinking from the effects of effusion into the areolar tissue of the larynx, and was *in extremis*. It became evident that there was only one course open, and that was the admission of air through the rings of the trachea. Under these circumstances, I consulted with my late partner; and we determined to give the patient the only chance which appeared to remain.

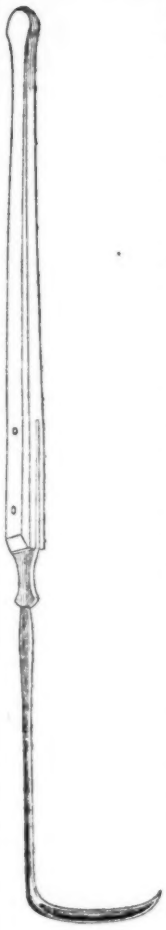
And here I would say a word or two on the desperate circumstances under which this operation has sometimes been performed by surgeons. I find, for instance, a case reported in the *Lancet*, October 1856, occurring in the practice of Mr. Quain, the surgeon at University College Hospital, where the child became asphyxiated while he was performing the operation of tracheotomy, but was recovered by inflating the lungs, and lived for three days afterwards. Indeed, I think there is hardly a limit short of actual death to the performance of this operation, or a period at which the surgeon would not be justified in trying it. We must bear in mind, in dealing with these cases, that the extinction of *animal* life is always anterior to that of *organic* life; that, consequently, *actual* death is a later event than *apparent* death; and that reanimation is always *possible* so long as the organic functions are performed.

The operation was performed in the usual way. An incision was made below the cricoid cartilage, in the mesial line, and continued for an inch and a half downwards towards the sternum. The sterno-hyoid and thyroid muscles were pushed on one side, and the trachea exposed. A scalpel was then cautiously introduced into it, and three rings divided upwards. The hæmorrhage was trifling, and ceased almost immediately after the cannula was introduced. This was secured by means of tapes round the neck.

The effect on the patient was instantaneous. The colour returned to the face; the lips lost their lividity; the breathing became more quiet, and the pulse firmer. The neck was enveloped in some light material, and directions were given that the apartment should be kept moderately warm, not lower than 65° Fahrenheit; and, after administering some light nourishment, the patient was left for the night. She passed a tolerably comfortable night, sleeping occasionally; and in the morning continued the same; and we had great reason to hope that she would have progressed favourably; but, towards night, bronchial symptoms set in; they increased in severity; she was unable to take food, and sank the following morning.

On the cannula being removed from the neck, and the wound enlarged, it was noticed that the membrane downwards, in the direction of the bronchial tubes, was highly vascular, and exhibited every indication of extension of the inflammation in that direction; and above, the mucous membrane was also vascular and swollen.

And now I have to make a remark or two on one source of difficulty attending this operation of tracheotomy: it is one which I think every surgeon who has operated has experienced. I allude to the difficulty of keeping the trachea from rolling. This is particularly experienced in young subjects, where the adipose tissue is abundant, and the trachea more deeply situated. Instruments have from time to time been introduced to the profession, calculated to overcome this difficulty. One surgeon has advised a tenaculum to be used to elevate the tube. Another directs that the patient should be requested to perform the act of swallowing; and, at the moment when the tube is elevated and fixed by this action of the muscles, the favourable moment should be seized, and the scalpel immediately introduced. This would be all very well, provided the patient will obey directions; but children and half-asphyxiated people will not or cannot obey such directions, and we must do that which is necessary to be done for them. Now, it strikes me that there are three requisites in an instrument for the safety and expedition of this operation:—1. A transfixer, to steady the larynx; 2. A guard against the effects of antero-posterior pressure; and 3. A director for the knife. I say a guard against antero-posterior pressure; for I maintain that, in young subjects, the pressure necessary to carry the knife through the elastic rings would bring its point in dangerous proximity to the posterior wall; so much so that I think it is positively unsafe to open it without a director.



The instrument which I hold in my hand is the cassigna hook, and is in common use in the French hospitals. It transfixes, it elevates; but, inasmuch as the groove for the knife is on the convexity of the curve, it does not guard it; neither does it support the ring to be divided. Here is an instrument made after my directions by Mr. Coxeter, of London. It differs from the cassigna hook, inasmuch as the groove for the knife is on its concavity, and the shaft is bent. It is for you to say, gentlemen, if you think it calculated to answer the objects we have in view; viz., transfixing the larynx, preventing antero-posterior pressure, and guarding the knife.

Prosecution under the Medical Act. On November 8th, the Manchester city magistrates were occupied for some time in listening to legal arguments in connexion with the Medical Registration Act. A summons had been taken out, at the instance of the Medico-Ethical Society, against Mr. J. Healey, Rochdale Road, for holding himself forth to the public as a surgeon without being registered. Mr. Healey was before the court a few months ago; but the prosecution against him was withdrawn, on his undertaking to alter his sign so as to omit the word "surgeon". He had then no legal assistance; and, having subsequently been advised that the prosecution could not be sustained, he made no alteration in the sign, and was now again summoned. Mr. Cobbett appeared in support of the summons; and Mr. Torr, barrister, represented the defendant. Mr. Torr admitted that the defendant was not registered, but contended that the Act did not apply to him. The fortieth section (that under which he was summoned) was for "wilfully and falsely" pretending that he was a surgeon; whereas his client had two diplomas (produced), and had been a practitioner for many years; his abilities were not denied. Mr. Maude said the magistrates could not constitute themselves a court of examiners into the degree of medical qualification which a man might possess. The words "wilfully and falsely" merely meant something contrary to the Act. A penalty of £5 must be imposed; and the defendant might, if he desired, have a case for decision by another tribunal.

Royal Medical and Chirurgical Society. The first meeting of this society for the present session was held on Tuesday, November 8th: when papers were read on a case of Abdominal Aneurism arrested by Treatment, by Mr. Solly, F.R.S.; a case of Tubal Gestation, by Dr. R. Lee; and a case of Double Club-foot and Club-hand in the same Infant, by Holmes Coote, Esq. A report of the proceedings will appear in our next number.

LETTERS AND COMMUNICATIONS.

Letters or communications for the Journal should be addressed to Dr. Wynter, Coleherne Court, Old Brompton, S.W.

Letters regarding the business department of the Journal, and corrected proofs, should be sent to 37, Great Queen Street, Lincoln's Inn Fields, W.C.

British Medical Journal.

SATURDAY, NOVEMBER 19th, 1859.

THE CASE OF SMETHURST.

The case of Smethurst, after months of delay, has at length been placed in a fair way of settlement; the Lord Chief Baron having received the following letter from the Home Secretary.

"Whitehall, Nov. 15, 1859.

"My Lord,—I have the honour to acknowledge the receipt of your Lordship's further report, of the 18th ult., on the case of Thomas Smethurst, who was convicted at the Central Criminal Court in August last of murder, and sentenced to death.

"As your Lordship suggests in that report that reference should be made to the judgment of medical and scientific persons selected by the Secretary of State, for the purpose of considering the symptoms and appearances of the deceased Isabella Banks, and the result of the analysis, I have sent the evidence, your Lordship's reports, and all the papers bearing upon the medical points of the case, to Sir Benjamin Brodie, from whom I have received a letter, of which I enclose you a copy, and who is of opinion that, although the facts are full of suspicion against Smethurst, there is not absolute and complete evidence of his guilt.

"After a very careful and anxious consideration of all the facts of this very peculiar case, I have come to the conclusion that there is sufficient doubt of the prisoner's guilt to render it my duty to advise the grant to him of a free pardon, which will be restricted to the particular offence of which he stands convicted; it being my intention to institute a prosecution against him for bigamy.

"The necessity which I have felt for advising Her Majesty to grant a free pardon in this case has not, as it appears to me, arisen from any defect in the constitution or proceedings of our criminal tribunals. It has arisen from the imperfection of medical science, and from the fallibility of judgment, in an obscure malady, even of skilful and experienced medical practitioners.

"I have, etc., "G. C. Lewis.

"The Lord Chief Baron, etc."

The fact that Sir B. Brodie has been fixed upon by the Home Secretary as the supreme arbitrator in this extraordinary case, is in itself a great compliment to the medical profession. We think we see in this act, moreover, something more than an acknowledgment of the great claims of the head of the profession to decide in a case eminently medical. We think we may look upon this act of the Home Secretary as the first official acknowledgment of Medicine as a new power in the State. The President of the Medical Council was the official person naturally communicated with by the Government; and the decision of our chief was no doubt gladly received by the perplexed Secretary as a happy means of release from an embarrassing position. That Sir B. Brodie has expressed the general opinion of the profession with respect to the guilt of Smethurst, there can be no doubt. The medical press, without an exception, dwelt upon the absence of sufficient proof; and we believe it was mainly owing to their energetic action that execution was stayed, and time was given for that second and more accurate weighing of the evidence which took place in the columns of the public press.

The imperfections of medical science are, we think, dwelt upon a little unfairly by Sir G. C. Lewis, as an excuse for the pardon he has advised He Majesty to grant. Imperfect our science undoubtedly is, and the judgment of even the most experienced and skilful medical practitioners is fallible enough in obscure maladies; but it should not be forgotten that Smethurst's life was spared chiefly in consequence of our advancing knowledge of symptoms. The light thrown by midwifery on this case, in the evidence of Dr. Tyler Smith, clearly made men doubt who felt before quite certain of the prisoner's guilt. Twenty years ago he would have been hanged, for a certainty. The twelve jurymen would have taken a "common sense view" of the case, and his fate would have been sealed; but with more light comes more caution and doubt. Yet, strange to say, our progressive knowledge is charged against us. One thing, however, is quite clear; namely, that twelve men, picked at random among shopkeepers, are not fitted either by education or habit to weigh chemical or medical evidence. They may be very good judges of moral evidence; but here their capabilities end. We cannot, therefore, agree altogether with the Home Secretary when he absolves from all blame "the constitution and the proceedings of our criminal tribunals". It is a very common thing to find the verdicts of our juries reversed in trials involving the suspicion of insanity, and in such as the one under notice, where they have to give judgment in cases of conflicting medical testimony. This fact clearly proves that juries, as well as medical men, are very often fallible in the extreme.

Those who still believe in Smethurst's guilt will not be dissatisfied to find that he will not escape quite scatheless. He will be tried for bigamy; but, as the utmost sentence that can be inflicted for this offence is only four years penal servitude, he will not, in all probability, leave this country.

THE WORKING OF THE MEDICAL ACT.

There can be no fear that the zeal which has been exhibited by our medical registration associations and ethical societies is at all likely to die out, after a brilliant but transient flash. From week to week, there come under notice cases in which the activity of these bodies is called into play; and week by week a dislodgment, or at least a disturbance, is made of one or more persons whom the *Register* does not denote as being legally entitled to practise.

Nor does the utility of the extra-official support to the Act rest here. Whatever care is taken by the Registrar, it will unavoidably happen that, until the year 1815 shall have been receded from to a somewhat greater distance than now, persons will be found who will endeavour to claim registration on the ground of having been in practice before that year, and will even get placed on the *Register*. To assist in the elimination of such intruders into the *Register* where entrance has been gained on false representations, is one of the duties of the societies to which allusion has been made. Here is a case in point, which was adjudged on at the recent meeting of the Branch Council of Medical Education and Registration of England.

It appears that a John Lacey (formerly a gas-fitter, blacking-maker, etc.), of Shrewsbury, self-styled "Medical Herbalist,"

and agent of "Dr." Coffin, forwarded to the Registrar in April last a declaration made and sworn before Mr. John Gregory Brayne, a Justice of the Peace for that Borough, stating that he, the said John Lacey, was practising at the Old Bailey, in the City of London, as a medical practitioner, before the Apothecaries' Act of 1815 came into force; in consequence of which declaration, the Registrar inserted his name in "The *Medical Register*." The fact having become known to the Council of "The Salopian Medico-Ethical Society," an appeal against the Registrar's decision was soon afterwards made to the General Council of the United Kingdom, and by them referred to the Branch Council of England, who, at their meeting on the 19th October, ordered his name to be erased from the Register.

In our last number, we noticed *inter alia*, the case of a person named Airey, who had been brought before the Bristol magistrates on the charge of assuming professional titles, to which he had no right. The decision of the magistrates was pronounced on Saturday last. After referring to the clause in the Act, bearing on the case, and recapitulating the facts adduced at the previous examination, Mr. Naish, the presiding magistrate, observed that two questions arose for consideration:

"1. Did the defendant take and use the title and additions which have been alleged against him for the purpose of implying that he was registered under the Medical Act? and

"2. Did he so act for the purpose of implying that he was recognised by law as a physician and surgeon?"

On these, he delivered the following judgment:

"On the first point we think that reasonable doubt exists, and we therefore find that the defendant is not guilty of so much of the information as charges him with having done the acts in question for the purpose of thereby implying that he was registered under the Medical Act.

"On the second point we think that the words in sec. 40, 'recognised by law as a physician or surgeon,' mean that the person practising must be recognised by the *English law*. We think also that the Medical Act is *general* in its application, and that, although a person may be duly qualified according to the laws of a foreign country, he must satisfy the requirements of the Medical Act before he can legally practise in medicine or surgery in *England*.

"Under these circumstances, we find the defendant guilty of so much of the information as charges him with having done the acts in question for the purpose of implying that he was recognised by law as a physician and surgeon, whereas in fact he was not so recognised, and we convict him in a penalty of £20, and in default of distress one month's imprisonment."

This decision will probably be appealed against; and it was stated by Mr. Brice, the magistrate's clerk, that the Bench were very desirous that the case should be tried elsewhere, although they had acted to the best of their judgment. In deciding on the infliction of the highest penalty permitted by the Act, as well as in disposing of the quibbling objections against the *Register*, the Bristol magistrates have set an excellent example. In their conviction of the defendant, they placed the case on the very simple and common-sense grounds, that he had, in contravention of the Act, used titles implying that he was "recognised by law" as a practitioner: and the term "law" was interpreted to mean the law of England, irrespectively of that of any other nation—the indication of compliance with the law being the appearance of the name on the printed *Register*, or the proof, by the person objected to, of his being registered.

In concluding, we would call attention to the Medical Registration meetings which have within the last few days taken place in two of the most important districts of the kingdom. At Liverpool, a general meeting of the Registration Association of that town has been held, and the society has been duly organised. Its constitution and objects are analogous to those of the London Medical Registration Association. Its president is a highly valued member of the British Medical Association; among its vice-presidents is the present president of our body; and we observe the names of a number of our associates among its members. In Bristol, a meeting has been held, under the presidency of the President of the Bath and Bristol Branch, for the purpose of forming a Registration Association co-extensive with that Branch. A number of resolutions were passed; and the office of president for the next year was conferred on one of our associates, a physician of the highest standing in Bristol. There is one suggestion which we would make to our Bristol friends; that is, in framing rules in accordance with their third resolution, to word them so as to exclude homœopaths and other irregular practitioners. The London Registration Association has taken this precaution; and the Liverpool (and we believe other) Associations have done the same.

THE WEEK.

The superb contempt entertained by the military authorities for the civil power is at the present moment being exemplified at Rochester. In that town the military lunatic asylum appertaining to the Chatham garrison is situated; and this establishment, like many other public asylums in the kingdom, having become clogged with incurable cases, the authorities are determined to solve the difficulty of dealing with them in a way peculiar to their cloth—that is, by simply turning their hopelessly insane patients into the streets! The proposition is so monstrous, that our readers will scarcely believe it could be made in a Christian country. The Mayor of Rochester, however, has been informed that a madman will be let loose in the town at the very moment we are writing; and the civil authorities are enjoined to be in readiness to catch him before he commits any public outrage. The corporation of Rochester have, naturally enough, protested against being made chargeable with imperial liabilities of this nature; and we are not surprised that they have determined to resist this inhuman and doubtless illegal conduct on the part of the military authorities. There can be no doubt that the military arm of the service should have its hospital for insane incurables, where the afflicted soldier might pass the remainder of his days in the same comfort as incurably insane seamen do at the Haslar Hospital. In a moment like this, when our safety depends upon our soldiers, it does seem extraordinary that the military authorities should insult their best feelings by such extraordinary conduct.

A very gratifying testimony to the public benevolence of the town of Birmingham towards the General Hospital of that town has just taken place. This establishment, it appears, was in debt; and at the instance of Dr. Miller, the rector of the parish in which it stands, it was suggested that a particular Sunday should be set apart for a general collection in all the places of worship, in order to wipe out the burden. The suggestion was instantly acted upon; and churchman, dissenter, Jew, and Roman Catholic, on the day appointed, contributed their offerings at their various chapels in the sacred cause of humanity. The result was a subscription in one day of upwards of £3500—a splendid testimony this to the benefit the hospital has conferred upon the town, and to the public appreciation of the benevolent action of our glorious profession.

Association Intelligence.

BRANCH MEETINGS TO BE HELD.

NAME OF BRANCH.	PLACE OF MEETING.	DATE.
BATH AND BRISTOL. [General Meeting.]	White Lion, Bristol.	Thurs., Dec. 1st, 6.30 P.M.

BATH AND BRISTOL BRANCH.

DIPHTHERIA.

AT the last Quarterly Meeting of the Bath and Bristol Branch, it was resolved that an inquiry should be set on foot with reference to diphtheria. Dr. William Davies, of Bath, will be obliged by answers to the following queries: the replies being numbered according to the questions.

1. Number of cases, ; age, ; sex, ; and general condition of patients.—2. Condition of throat, especially as regards the presence of false membrane, etc.—3. Mode of treatment; local and general.—4. Number of deaths.—5. Cause of death in fatal cases.—6. *Post mortem* appearances.—7. General remarks.

Reports of Societies.

MEDICAL SOCIETY OF LONDON.

MONDAY, NOVEMBER 14TH, 1859.

ROBERT WADE, Esq., Vice-President, in the Chair.

PAIN AS A SYMPTOM OF DISEASE OF THE STOMACH.
BY S. O. HABERSHON, M.D.

Dr. HABERSHON commenced his paper by observing briefly on the difference in the value of pain as a sign of disease. As a general rule, mucous membranes were free from ordinary sensation, except at the external orifices, and were capable of undergoing a vast amount of pathological change without an increase of this sensation; the same was the case with the parenchymatous viscera. In serous membranes, on the other hand, almost every change was felt. In acute inflammation of these membranes, pain is often severe, as in pleurisy, peritonitis, synovitis, etc. In these cases, relief was capable of being obtained by rest; and the rest so obtained was not such as to interfere with life. Pericarditis formed an exception; here there was absence of pain, unless pleurisy were also present; and in pericarditis, rest of the organ was unattainable so as to be compatible with life.

With regard to pain as a symptom of disease of the stomach, the author set forth the following propositions, most of which he illustrated by cases. 1. Acute (so-called) inflammatory disease of the stomach may be free from pain if the mucous membrane alone be affected. It was commonly said that acute gastritis was very rare, and that its most usual cause was irritant poisoning: but this opinion, Dr. Habershon thought, arose from the comparative absence of pain in the disease, which he regarded as more common than is usually supposed. Even in irritant poisoning, if the mucous membrane alone be affected, there may be no pain beyond that which is produced by the violent muscular efforts of vomiting. In illustration of this, Dr. Habershon related two cases, one of poisoning by oxalic acid, followed by recovery; the other fatal, of poisoning by sulphuric acid, in which pain was absent. In the latter case, the mucous membrane of the stomach was found to be extensively destroyed; but the deeper structures were uninjured. He also referred to a case of poisoning by chloride of zinc, in which pain in the scrobiculus cordis was first complained of thirteen weeks after the accident. Death took place eight days afterwards; the stomach was found extensively ulcerated, and there was a perforation towards the cardiac end which was probably connected with the attack of pain. 2. Organic disease of the mucous membrane—*e.g.*, cancer,—may be comparatively free from pain. Cancer is often found deposited in the stomach where there has been no symptom of the disease in that organ during life. The author related a case of dropsy with cirrhosis of the liver, in which the anterior surface of the stomach was coated with a cancerous villous growth; the orifices were free. He had no pain in the stomach during life, nor vomiting. 3. Disease extending to the muscular and peritoneal coats of the stomach often produces severe pain, as in perforation. In some cases, Dr. Habershon had found branches of the pneumogastric nerve involved in the edges of ulcers. 4. The stomach is naturally capable of a certain amount of distension without sensation: but over distension of the organ produces severe pain. 5. Disease, especially acute, affecting the peritoneal covering of the stomach, is generally accompanied by severe pain. 6. Dr. Osborn has shewn that in some cases of gastric ulcer, the position which the patient assumes in order to obtain relief from pain, shows the seat of the disease. 7. In disease of the lesser curvature, near the pylorus, pain is felt as soon as food enters the stomach, and gives the idea of a disease of the œsophageal orifice. 8. Many conditions of functional disease of the stomach are entirely free from pain. 9. The pain in many so-called functional diseases of the organ is very severe; but it arises from a malcondition of the nerve-centres, and the intimate connection of the spinal and sympathetic nerves. 10. The effect of diseased conditions of the pneumogastric nerve, or of its branches, in connection with stomach disease, is a matter of interest. Vomiting has been produced by irritation of a reflex character; for example, in disease of the suprarenal capsules, the irritation here being communicated through the branches of the pneumogastric nerve distributed to these bodies. The dyspepsia of phthisis had been attributed to a similar cause; but, in Dr. Habershon's opinion, it more probably arose from the general state of malnutrition. 11. In functional disease of the stomach attended with pain after taking food, it is probable that severe disease of the pyloric orifice exists. 12. Pain may be produced by distension of the stomach, by gases arising from the decomposition of food. 13. In lesions of the stomach where pain may be expected, it is sometimes absent, from destruction of a portion of the pneumogastric nerves. 14. Pain at the scrobiculus cordis, simulating stomach-disease, often arises from other causes. It is often present with chronic bronchitis or obstructive valvular disease, being probably connected with an overfilled state of the right heart. 15. Aneurism of the abdominal aorta sometimes produces severe pain, which may be mistaken for that arising from a cancerous disease of the pylorus.

Dr. GIBBON objected to the statement (if he understood the author of the paper rightly) that disease of the muscular or serous coats of the stomach was necessarily attended with pain. He had seen ulceration—even perforating ulcer—attended with little or no pain, even when food was taken into the stomach; but, when the branches of the pneumogastric nerve were exposed, there was pain. He had met with a case of apparent gastritis from drinking iced champagne after dancing. There was at first severe spasmodic pain, almost producing collapse: but this did not continue. The patient invariably rejected his breakfast every morning after taking it. In this case, and in one which he had noticed of poisoning by chloride of antimony, the only food which the patients were able to tolerate was sopped beef.

The CHAIRMAN thought he had seen cases of perforating ulcer unattended with pain.

Dr. MACKENZIE mentioned the case of a gentleman who for some time had signs of malignant disease of the stomach and digestive organs. In the course of time, a supposed cyst formed in the left hypochondriac region; which, after consultation with Mr. Quain, was opened, and a pint of fluid was discharged. The patient was relieved: but no pain was produced. He ultimately died of the cancerous disease, and, on *post mortem* examination, it was found that the supposed cyst was in reality the stomach, the opening of which had apparently been followed by no injury—the patient dying as he would otherwise have died.

Dr. HABERSHON said, with respect to the occurrence of pain in perforation, that almost any change, occurring slowly, may be unattended with pain. He had not intended to say that no disease of the muscular or serous coats of the stomach was without pain; but what he had especially wished to say was, that disease of the mucous membrane alone might be unattended with pain. He would ask the opinion of the Fellows of the Society on the question, whether the pain at the scrobiculus cordis in heart-disease was to be referred to the distention of the heart, or to the stomach.

Dr. HYDE SALTER would corroborate the observations of Dr. Habershon as to the discrepancy often existing between the seat of pain and the seat of disease. The place, however, to which pain is referred is not haphazard; but the pain arising from the disease of a viscus in a cavity is referred to the

middle line of the body, at a point corresponding with the level of the diseased organ. Thus, in bronchitis, the pain is referred to the breast-bone or between the shoulder-blades. In disease of the stomach, the pain is referred to the scrobiculus cordis, and to the corresponding point in the spine. Again, in colic, the pain is generally between the stomach and the umbilicus, and also in the spine. This "fore and aft" character of the pain was also observed in other instances. Dr. Salter thought that the transfer of pain to the surface might explain the action of counterirritants to the external parts in inflammation of the viscera. The pain was probably reflex; and as the external sensation was affected by the vascular condition of the affected organ, through the sympathetic nerve, so, conversely, by the application of an irritant externally, at the seat of pain, a modification might be produced of the circulation of the diseased part.

Mr. Streeter called the attention of the society to the doctrines laid down by Sir Charles Bell regarding pain; and observed, in regard to Dr. Salter's view, that there were two remarkable exceptions,—viz., the pain in the right shoulder in liver-disease, and the pain and retraction of the testicle in disease of the kidney.

EPIDEMIOLOGICAL SOCIETY.

Monday, November 7th, 1859.

B. G. Babington, M.D., F.R.S., President, in the Chair.

PRESIDENT'S ADDRESS.

After the usual preliminary business of the meeting, Dr. Babington opened the session 1859-60 by an address, in the course of which he introduced an interesting *resumé* of the principal epidemics which had appeared in various parts of the world during the last twelve months, drawn up by Dr. McWilliam, the Secretary of the Society.

Cholera broke out in July last at Bombay and Poona, and almost simultaneously on the continent of Europe, selecting on this, as on former occasions, the city of Hamburgh as the scene of its development. It next appeared at Helsingfors, in the Gulf of Finland; and afterwards in Soultre, in Sweden; and, early in September, it declared itself in Stockholm. While cholera was prevailing in these northern latitudes, its appearance was also announced in Murcia, in the south-eastern part of Spain. This disease, however, soon abated here in the town; but it lingers still on the coast, as Alicante and Valentia are still considered as ports suspected of cholera infection. More recently, the disease had attacked Rotterdam and Bruges, at which latter place its progress was for some time most alarming. There was not, it appeared, any very satisfactory or trustworthy information with reference to the origin of the disease in any of the continental ports; but it was well known that, in the course of the past summer and autumn, cholera had been imported into several of the ports of this country by vessels from Hamburgh; viz., into the river Thames, in two different vessels; into Hull, Grimsby, Southampton, and North Shields. In the last named port, the disease was communicated to a lodging-house on shore, where it proved fatal to two of the inmates. From the time that the existence of cholera was known, our Government appear to have been fully alive to the necessity of taking measures against the invasion of this country by that scourge. Quarantine restriction was not resorted to, nor was the freedom of commerce or of intercourse with other countries at all interfered with; but every precaution short of these was taken by the authorities. All arrivals in the ports of this country, more especially in those having intercourse with Hamburgh, were carefully watched for cholera cases; and in those vessels where the disease did exist, a certain degree of isolation from other ships, and limitation of intercourse with the shore (but not such as to cause inconvenience), were recommended, and in all cases followed. The sick sailors brought into the Thames were at once transferred to the *Dreadnought;* and, had occasion required, cholera hospitals were ready for immediate use. The local authorities at such ports were exhorted to provide places of reception for poor passengers and seamen who might arrive suffering from cholera. They were also furnished with the admirable provisional memorandum drawn up by Mr. Simon, which earnestly urged upon local authorities the immediate and energetic exercise of the powers conferred on them by the Nuisances Removal Act during the prevalence of cholera, diarrhœa, diphtheria, typhus, or any other kind of fever; and which also contains concise and clear suggestions for the prevention and mitigation of these and other epidemic disorders.

Diarrhœa was unusually fatal in London during the past summer, and a death from cholera was occasionally to be found in the Reports of the Registrar-General. Partial outbreaks of cholera, as on the banks of the Itchen, near Southampton, were said to have occurred in some of the country districts; but nowhere in this country, except at Wick, in Caithness, and at Glass Houghton, in the parish of Castleford, near Pontefract, had the disease appeared in an epidemic form.

In the West Indies, *yellow fever* had been prevalent at several of the islands, more especially at Antigua, Trinadad, and St. Thomas. In the *La Plata*, which arrived last week at Southampton from St. Thomas, there had been fifteen deaths from yellow fever during the passage home. Much remained to be done in the way of improving military barracks in the West Indies; and, indeed, a thorough and minute inspection of all barracks in these islands seemed absolutely necessary, if we intend to put an end to, or at all events to mitigate, the evils of every-day occurrence in that part of our colonial possessions.

Scarlatina and *diphtheria* had prevailed in most parts of this country, and more especially in the rural districts. Diphtheria had also appeared in Australia. The origin and progress of this disease in a country like Australia, which had all along enjoyed a comparative exemption from epidemics, were subjects worthy of careful investigation.

Allusion was next made to the Permanent Public Health Act, which was happily carried through Parliament during last session. Among the important objects obtained with this Act was the placing of the public vaccination of England and Wales under medical supervision. The regulations for the necessary staff were most anxiously expected, and would, it was to be hoped, enable this country to realise to a far greater extent than it had yet done the benefit conferred by the magnificent discovery of Jenner. For its sins of omission in this respect, England was at this moment being scourged. The great small-pox epidemy, which commenced in 1857, had within the last twelve months had possession of this metropolis, within the limits of which scarcely less than one thousand persons have paid in this period by death, and probably ten times that amount by sickness, the penalty of their neglect of, or of the imperfect manner in which they have received the great prophylactic of, vaccination.

Dr. Babington concluded his address by exhorting the members to zeal in furnishing papers for the Society, and in regular attendance at the meetings.

ON ZYMOSIS. BY B. W. RICHARDSON, M.D.

Dr. Richardson first considered the process of fermentation as it occurs *out* of the body. He dwelt on the different views which have been held as to the nature of this process, explaining that they divided themselves into three groups—the vital, the physical, and the chemical. In regard to zymosis, or ferment *in* the body, the view generally held was linked with the idea of vital character of the fermentation process. The author then commented on the objections which might be urged against the vital hypothesis, and presented a reading of the subject which, resting on a basis purely chemical, explained much that was obscure and conflicting. He did not oppose the idea of zymosis; on the contrary, he gave to it a direct affirmative; but he argued in reference to three points—1. That the virus exciting the fermentation was simply an albuminous product; 2. That the virus was not by its *presence* the cause of the symptoms, but that the symptoms of the epidemics or zymotics were due to the presence of new chemical products resulting from the new chemical changes; 3. That the reappearance in some cases of the virus as an excrete was a necessary result, but that the origin of the virus was purely local. Dr. Richardson next passed on to show that, if the views he had advanced were tenable, they would explain many points which otherwise are all in confusion, would link certain diseases to the *zymotici* which are not at this moment ranged in that list, and would yet at the same time reduce the verbal list of zymotics to a few units. In the first place, he urged, the theory of zymosis, as he explained it, disclosed the reason of the analogy which exists between diseases acknowledged to be communicable, and certain other diseases which are not considered communicable, such as dissecting-room cholera. In the next place, it explained the reason why a small equally with a large quantity of poison introduced into the body excites the same intensity of effect. Thirdly, the theory suggested an alliance between diseases arising from the absorption of poisons, and diseases pro-

duced by changes occurring in the body spontaneously, such as rheumatic fever and tetanus. Fourthly, it explained why the majority of zymotic diseases got well of themselves. If the poisons of these diseases were vital, and increased or multiplied in the body, the reproduction would last so long as the material for the continuance of the reproduction were present. But if the process were simply chemical, as he supposed, there was a direct reason why the diseases ran a limited course, inasmuch as chemical changes, having no independent continuance when their causes were removed, ceased necessarily after a time, together with the symptoms excited by them during the period of their operation. Lastly, on the theory suggested by the author, an immense field was opened for direct experimental inquiry. Here scientific researches might take two directions, the one towards tracing the action of known poisons on animals, and exciting diseases analogous to the zymotic diseases after the synthetical method; the other towards ascertaining whether diseases so excited could be transferred to subjects previously unaffected. Dr. Richardson claimed tetanus to be essentially zymotic. His theory of its production in traumatic cases was, that the wound, in the process of healing, secreted a special albuminous product, which had the property of a ferment. This substance, absorbed into the body, excited new chemical changes; and, as a product of these, there was developed an alkaline or alkaloid substance, having properties analogous to those of strychnine. Whether the patient should or should not recover depended, therefore, on the circumstance of this produced poison being or not being eliminated from the system by the excretions, before the tetanic symptoms excited had progressed to a certain degree. If the symptoms were extended, or were moderate, or were moderated by medicinal means, the poison might be eliminated, and the patient might recover; or the reverse. In regard to tetanus, two experimental questions were open for solution; viz.: Will the secretions from a wound in a tetanic patient, introduced by another wound into a healthy animal, excite tetanus? Secondly, Are the secretions, say the urine, of a tetanic patient, capable, like strychnine in solution, of exciting tetanic spasm in a susceptible animal?

Mr. Radcliffe asked Dr. Richardson to explain the steps in the zymotic process a little more in detail.

The President asked the author to sketch out the line of experimental inquiry which he proposed to pursue.

Dr. Milroy thought the author's theory did not, as he had understood it, supply sufficient reason for the spontaneous development of certain zymotic disorders, such as cholera or typhus.

Dr. Camps suggested that the diseases which the author had excited in the inferior animals were not *the* diseases, but analogous affections.

Mr. Spencer Wells noticed the particulars of two cases of tetanus occurring in his own practice after ovariotomy.

The author having replied, Dr. Waller Lewis moved, and Dr. Milroy seconded, a vote of thanks to him for his paper; and the President, in putting the resolution to the vote, stated that he hoped Dr. Richardson would favour the Society with further records of his researches in this important field; and that, should he at any time require such assistance, a committee should be formed to observe the results of his experiments.

Editor's Letter Box.

THE JOURNAL: THE FINANCIAL CONDITION OF THE ASSOCIATION.

Letter from John Dix, Esq.

Sir,—Through the courtesy of our respected Treasurer, I have at length received an answer to the question I publicly asked some weeks ago, viz., What was the amount due to the printer and publisher at the end of the last year? Contrary to custom, no statement of liabilities, except the debt to the Treasurer (£297), was given in the last financial statement; yet, at this very time, the printer's bill—which there were no funds to meet—was "about £600", making a total of £897—the real debt of the Association at the commencement of 1859, and chargeable upon the income of that year.

This statement will probably be received with surprise, or even with incredulity, by many of our associates; yet I believe it to be accurate, indisputable, and even easy of proof. It is a matter of the greatest importance; and I need scarcely bespeak the special attention of every member of the Association to the following considerations.

The debt of the Association has always been exhibited under two heads, viz., the sum due to the Treasurer, and the sum due to the printer and publisher, at the end of each year. This division may be explained on the supposition that, when our account with the Treasurer is overdrawn to a certain amount, he declines to advance more money; and so the payment of outstanding bills is necessarily deferred till fresh subscriptions come in at the beginning of a new year. Of course when this happens the whole of the debts can be paid off; but thus a serious inroad is at once made upon the new income (which ought to meet the entire charges of the current year), so that before the year is ended the money is all expended, the Treasurer's account is again overdrawn, and unpaid bills again accumulate. Such was the state of affairs in 1855; such it was in 1858; and such it probably is now.

Here is a tabular statement of the debt since 1855, extracted from the published balance sheets of the respective years.

Year.		Debt.	Reference.
Dec. 31, 1855	Treasurer . .	692	Journal,* Aug. 9, 1856, p. 674.
	Printer, etc. .	602	
		£1294	
Dec. 31, 1856	Treasurer . .	475	Journal, August 8, 1857, p. 669.
	Printer . . .	527	
		£1002	
Dec. 31, 1857	Treasurer . .	300	Journal, August 7, 1858, p. 653.
	Printer . . .	538	
		£838	
Dec. 31, 1858	Treasurer . .	293	Journ., Aug. 6, 1859.
	Printer . . .	600	Private letter from Sir C. Hastings.
		£893	

Hence we learn, that the sum due to the Treasurer is not a full representation of the debt of the Association, but that we must add thereto the amount owing for printing and publishing, and any other outstanding bills; and it is obvious that, if the debt on January 1, 1856, was £1294, it was £893 on January 1, 1859; whilst the decrease of the debt in this space of time is exactly shewn by the difference between these two sums, viz., £401.

Nor is there any mystery about the manner in which this reduction has been brought about. In the year 1856, the 10*s.* "call fund" produced £492,† being £91 *more than the entire diminution of the debt* since 1855. Hence it follows that, during this time, the *natural* income of the Association *has not equalled the expenditure.* On the contrary, except for the extra sum raised by special contribution, the liabilities of the Association at the commencement of the present year would have exceeded those of January 1, 1856, by this same sum of £91, and the debt would have been no less than £1385.

What becomes of the statement of the Council, "that since 1856 the debt has been considerably diminished" by means of the "call fund", and in consequence of "*the income having since that time exceeded our expenditure*"? what of the glaring inaccuracy contained in the editorial statement, that "the financial difficulty is not only not increasing, but rapidly proceeding to the vanishing point"? and that "out of the £2000 that hung over our heads five years ago, but little more than £300 now remains"? (See Journal, Oct. 8, 1859, p. 817.)

And what becomes of the document published as a balance sheet at the last general meeting, which mentions as our *only debt* the sum of £293 due to the treasurer—although we had then other debts of "about £600"—and which, by exhibiting a diminution of £7 in the treasurer's account, sought to cajole us into the belief that our income had exceeded our expenses? Whereas, it turns out that the suppressed debt had increased £62, viz., from £538 to £600. So, that instead of this illusory surplus of £7, there was an actual deficiency of £55, *by which sum the debt of the Association had been augmented*, viz., from

* In the last report of the Council (see Journal, Aug. 6, 1859, p. 628) it is stated that the debt in 1856 amounted to near £2000. This is clearly an error. The report on finance drawn up by a committee appointed specially for the purpose, shows a deficit of £1294, as I have given it above.

† The total accruing from the "call fund" was greater than the sum here given; the exact amount is not clearly shewn, but there is evidence that some portion of the income of 1857 arose from this source, although no mention is made of it in the *financial statement for the whole year.* But in a supplementary balance sheet for the *half-year* ending June 30, 1857, this item occurs—Arrears and *calls* £146. (See Journal, Aug. 8, 1857, p. 669.)

£838 at the end of 1857, to £893 the adverse balance on December 31, 1858.

Further comment on this matter would be for the present superfluous; I prefer to leave the naked facts—which I hope I have made sufficiently plain—to the calm and unprejudiced judgment of each brother associate. For my figures, I challenge the closest scrutiny; and for the convenience of those who wish to test their accuracy, I have appended a complete and minute reference to the various balance sheets from which my calculations have been made, which I hope will save others a great deal of the trouble and labour which this investigation has cost me. I am, etc., John Dix.

Hull, November 15th, 1859.

[Mr. Dix arrives at the extraordinary conclusion, that the balance against us at the end of last year was £893, by the facile process of entirely ignoring the good debts owing to us. We have before pointed out this error in his method of calculation, and we must express our surprise that he again deliberately repeats it. We need scarcely say that his conclusions are totally illusory. With regard to his charge against the Council and Treasurer, of having *cajoled* the associates with respect to their accounts, we have no doubt those gentlemen will be able to answer it to the satisfaction of our readers. Editor.]

THE JOURNAL.

Letter from Joshua Parsons, Esq.

Sir,—Now the storm of debate caused by Mr. Dix's agitation has in some measure subsided, I wish to speak a word for the Journal, in the name of the country practitioners. We, as a class, have ever formed the backbone of the Association; and, from the list of members in this week's issue, appear not to have lost our relative importance in its ranks.

Amongst my country brethren, I have been for many years a strenuous advocate for the Association, and have ever found the promise of a weekly Journal the most potent and effective argument in its favour; and I wish to record my firm conviction, that the discontinuance of this boon would be the signal of withdrawal for hundreds. The true way to make our body prosper, is to increase the efficiency of the Journal by all possible means. Too many of my rural compeers cannot afford the price of all the medical periodicals, nor the time necessary for their perusal; and yet are loth to feel themselves debarred from most of the new opinions and practices which are daily springing up in the profession. To such, a most welcome addition to the ordinary contents of the Journal, would be a weekly or monthly summary of such practical hints, discoveries, or histories of new phases of disease, as may be found scattered in the medical literature of the period. An excellent illustration of my meaning will be seen in an article appearing in each monthly part of *Chambers's Edinburgh Journal*, entitled "The Month: Science and Arts". Such a summary, especially if accompanied by well timed editorial comments, would, I believe, be interesting to all, as indicating at one glance the set of medical opinion and practice; and its space would hardly be grudged by the more favoured dwellers in cities and large towns.

I am, etc., Joshua Parsons.

Beckington, Somerset, Nov. 15, 1859.

THE JOURNAL: FINANCIAL AFFAIRS.

Letter from George May, Jun., Esq.

Sir,—The importance of a good Journal to the welfare of the British Medical Association, has induced me to examine the financial reports presented at the last three annual meetings; and I venture to call your attention to the following statement.

The arrears in 1856, amounted to £666; in 1857, to £162; in 1858, to £498.

These sums are obtained by deducting the amount actually received from the estimated amount, calculated from the number of members. We may therefore fairly reckon the yearly loss at £400; but this does not represent the worst of the case, for each copy of the Journal costs the Association, say 10*s.* per annum (the Journal is estimated by Dr. Henry to cost 15*s.* 6*d.*). Therefore the loss of the subscriptions for the last three years, has involved an actual outlay of £200 per annum.

Does not this prove that there is something very defective in our present financial system? You are aware that the plan now followed is to allow members to pay their subscriptions either to the Treasurer, the Secretary, the Secretary of the Branch, or to the publisher of the Journal. The Secretary of each Branch is accustomed to apply for the subscription early in January; and, if the amount is not paid before the annual general meeting, it becomes the duty of the General Secretary to apply for it. This method leads to much confusion; and the Secretaries of the Branches become unwilling to ask for money, that may have been paid to other parties. I propose the following for your consideration:—

1. That every member of a Branch shall pay his subscription to the Secretary of that Branch.

2. That a report shall be made to the Executive Council each year, at its first meeting, of the members whose subscription is more than one year in arrear; and that a circular shall be sent by the Council to each defaulter, to inform him that the publications of the Society will be withheld.

3. That the names of all members whose subscriptions have been in arrear for three years, shall be reported to the Executive Council.

I hope this proposal will elicit an expression of opinion on this important object, and am, etc.,

George May, jun.

Reading, Nov. 1859.

THE JOURNAL.

Letter from Thomas T. Griffith, Esq.

Sir,—As no plan has been proposed by which the opinion of the Association at large can be obtained respecting the merits of its Journal, there seems to be a call upon each member interested in the subject to express his estimate of its value as a Journal adapted to the requirements of the Association. As one of its earliest members, I have had the opportunity of watching the rise and decline of its publications for the first years of its existence. The *Transactions* are a standing memorial to the intelligence, industry, and extensive information of the contributors to them, and must ever form valuable records of the special subjects treated of; but this was done more comprehensively and at greater length than the limits of a weekly journal could admit.

With regard to the Journal as now conducted, I am bound to say that it has afforded me week by week valuable information on topics the most interesting to a professional reader. It tells us not only what our fellow-associates are doing in the common field of professional duties, but it also seems to give us an insight into the details of their more private walk. It tells us of their success, their appointments, and well merited honours, whilst living; and pays a just tribute to their memories when no longer among us, and from their lives points a moral to the survivors. These are matters of social interest, which keep up a mutual sympathy, and by a pleasant bond, more deeply felt than described, draw us into closer union than the outward form of Association fellowship can ever do. Should the Journal cease to circulate among us, I for one should regret the absence of a friend whose visits are always agreeable and instructive.

I believe, in common with many others, that its pages might be enriched to a greater extent than at present, from those stores of individual knowledge and experience which otherwise will perish with their possessors. What valuable information would accumulate from details of cases of every day's occurrence! They would form a trustworthy basis for correct statistics, as coming from many different sources, and would afford a reliable body of evidence for the correction or confirmation of the views and practice of others engaged in the same field of labour, and who would thus find that the same diseases may present varied aspects without losing their essential characteristics.

It may fall to the lot of the few only to tie the abdominal aorta, or amputate at the hip-joint; but it must fall to the lot of all to have perilous and trying cases in midwifery, to meet with diseases, in themselves simple, rendered complicated and perplexing by the psychical and physical peculiarities of the patients. The sphere of each man's practice from local circumstances will often have a peculiar or modified character stamped upon his surgical cases. The severe injuries of the head and chest, the comminuted and complicated fractures of the limbs helping to solve the question of primary or secondary amputation, the casualties from blasting rocks, extensive burns, and the effects of noxious airs, will form the general practice of the surgeon in mining and manufacturing districts; whilst lacerated wounds, accidental hæmorrhages of every kind, will be

met with where agricultural and paper-making machinery are used. In all these cases, the best energies, all the information and experience, and all the resources of an active and intelligent and self-possessed mind, will be called for. The modifying influences of hereditary tendencies, age, health, habits, moral and physical, will be observed, and the resources of nature and her aims in the reparatory processes will afford matter of deep interest to the surgeon and physiologist; and, lastly, we have the opportunities of marking the varied phases of epidemics in their onset, progress and decline, and the effects of remedies in their treatment. These, and other matters of frequent occurrence could easily be recorded in the pages of our JOURNAL, and in no other way be made so readily accessible to every member of the Association.

I am, etc., THOS. T. GRIFFITH.

Wrexham, November 16th, 1859.

THE EMPLOYMENT OF MERCURY IN TRAUMATIC INFLAMMATION OF THE EYE.

SIR,—In answer to Mr. Harrinson's question, I beg to suggest that the first opinion is a sound one, and the second no less so; and that the two are "diverse", because the subjects are. The first is a question of treating a wound of the eye; the second refers to treatment of the inflammation following a wound, the wound possibly having healed. No one, I imagine, will doubt the tendency of mercury to prevent union of wounds in this organ, nor yet the power of mercury over traumatic iritis.

I am, etc.,
A SURGEON.

Old Steine, Brighton, Oct. 29th, 1259.

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

** In these lists, an asterisk is prefixed to the names of Members of the Association.*

BIRTHS.

Of sons, the wives of—

DOMAN, Edward W., Esq., Surgeon, Herne Bay, on Oct. 23.
FORSTER, J. C., Esq., Surgeon, Wellington Street, E.C., on November 16th.
MILLER, —, M.D., Staff-Surgeon R.N., Grosvenor Place, Camberwell, on October 22nd.
SMILES, Wm., M.D., Bedford Square, on Nov. 15th.

Of daughters, the wives of—

*BUTLER, Frederick J., Esq., Surgeon, Winchester, on Nov. 14.
CANTON, Alfred, Esq., Surgeon, 17, Great Marlborough Street, on November 14th.
CLARK, F. Le Gros, Esq., Surgeon, at Lee, on November 9th.
DRURY, J. S., M.D., 13, Radnor Place, W., on Nov. 14th.
LOWE, W. H., M.D., Balgreen, near Edinburgh, on Nov. 10.
MAY, William, M.D., at Oporto, on Oct. 20th.
TAYLOR, Charles, M.D., Camberwell, on November 10th.

MARRIAGES.

BARNARD, George, M.D., Indian Army, to Emma Shakespear, third daughter of Thomas R. CLARKE, Esq. of the East India House, at Mussooree, on September 28th.
CHAPMAN, Alfred, Esq., Edenham, Ahuriri, New Zealand, to Elizabeth, eldest daughter of G. D. MONTEITH, Esq., Colonial Surgeon, Wellington, New Zealand, on August 29th.
DICK, John, M.D., Broombank, near Midcalder, to Bethia Hamilton, daughter of the late Rev. John SOMMERS, D.D., minister of Midcalder, at Edinburgh, on November 10th.
HARRISON, Francis, Esq., Medical Staff Indian Army, to Elizabeth E. A., only child of John A. WOOLLS, Esq., of Fareham, late 9th Foot, on November 9th.
KING, George H., M.B., of Horncastle, to Eliza, eldest daughter of William GILLIAT, Esq., of Martin, at Ewerby, Sleaford, on November 9th.
WILLIAMS, William, Esq., of Whittlesea, to Susan Frances, third daughter of T. W. BURT, M.D., late H.E.I.C.S., at Tiverton, on November 11th.

DEATHS.

COVENTRY, John, Esq., Surgeon, at Cheltenham, aged 42, on November 12th.
DOMAN. On November 2nd, at Herne Bay, the wife of E. W. Doman, Esq., Surgeon.
HINE, D. B., Esq., Surgeon, at Ripley, aged 30, on Nov. 9.
LLOYD. On October 3rd, at Sammcattah, Madras, aged 10 weeks, Sophia E. D., only child of Edmund E. Lloyd, Esq., Assistant-Surgeon Madras Army.
MCCULLOCH, George, M.D., Staff-Surgeon, late 5th Dragoon Guards, at Connaught Terrace, on October 31st.
MAY. On October 18th, at Oporto, William F., infant son of William May, M.D.
SHUTE. On November 9th, at Dursley, aged 70, Mary E., widow of the late Hardwicke Shute, M.D.
WANSBROUGH, Thomas W., M.D., aged 71, on November 9th.

APPOINTMENTS.

LEBERT, M., has been appointed to the Chair of Clinical Medicine at Breslau, lately occupied by Frerichs.
*LITTLE, John C., Esq., elected Mayor of Boston.
WILLIAMS, E., M.D., elected Mayor of Colchester.

PASS LISTS.

ROYAL COLLEGE OF PHYSICIANS OF LONDON. Fellows elected on November 2nd:—

AYRE, Joseph, Hull	HOSKINS, Samuel E., Guernsey
BARCLAY, John, Leicester	MCWILLIAM, James O., London
BEALE, Lionel S., London	MERYON, Edward, London
BEATTIE, William, London	ODLING, William, London
BLACK, James, Edinburgh	OLLIFFE, Sir Joseph, Paris
CAMMACK, Thomas, Spalding	PARKER, Nicholas, London
DICKINSON, Joseph, Liverpool	PAVY, Frederick W., London
EVANSON, Richard T., Torquay	ROLLESTON, George, Oxford
GREENHOW, Edwd. H., London	THURNAM, John, Devizes
HALL, C. Radclyffe, Torquay	WEBER, Hermann, London

APOTHECARIES' HALL. LICENTIATES admitted on *Thursday, November 3rd*, 1859:—

BOOTH, S., jun., Huddersfield	RUCK, David, Cirencester
DANIEL, T. P., Beaminster	WHITE, Wm. Acraman, Frome, Somerset
HUGHES, A. J., Dartford	

The following gentlemen also, on the same day, passed their first examination:—

DUKE, Stephen, Chichester	WILLIAMS, John, Brecon, South Wales
HOCKING, J., St. Ives, Cornw.	

Thursday, November 10th:—

GREENE, John, Sedgley, Staffordshire	SIMMONS, B., Taunton College
	WILLIS, William, Enniskillen

The following gentlemen also, on the same day, passed their first examination:—

FARRANT, Samuel, Cullompton, Devonshire	MARCH, Henry Colley, Newbury, Berkshire

HEALTH OF LONDON—NOVEMBER 12TH, 1859.

[From the Registrar-General's Report.]

	Births.	Deaths.
During week ..... {Boys .. 918 / Girls .. 930}	1848	1051
Average of corresponding weeks 1849-58 ..	1592	1174

Among the causes of death were—bronchitis, 102; pneumonia, 60; hooping-cough, 14; small-pox, 21; scarlatina, 98; diphtheria, 8. Of bricklayers, there died 1, of bricklayers' wives, 1, of bricklayers' children, 5; of carpenters, 8, carpenters' wives, 4, carpenters' children, 7; of painters, 8, painters' wives, 7, painters' children, 9; of plasterers' children, 1.

Barometer:

Highest (Thurs.) 30·555; lowest (Sat.) 29·360; mean 30·022 in.

Thermometer:

In sun—highest (Mon.) 66·2°; lowest (Thurs.) 50°.
In shade—highest (Sun.) 60·4°; lowest (Thurs.) 29°.
Mean—43·7°; difference from mean of 43 yrs.—0.9°.
Range—during week, 31·4°; mean daily, 13·0°.

Mean humidity of air (*saturation*=100), 78.
Mean direction of wind, variable.—Rain in inches, 0.52.

MEDICAL REGISTRATION.

LIVERPOOL MEDICAL REGISTRATION ASSOCIATION.

A GENERAL meeting of the members of this Association was held at the Medical Institution, Mount Pleasant, on Wednesday, November 9th, at 7 P.M. The Chair was taken by the President, ELLIS JONES, Esq., and there were also present thirty-nine members, including Drs. Vose, Stookes, Waters, etc. The minutes of the last meeting having been confirmed, the Honorary Secretary (Mr. A. B. Steele), read the report of the Provisional Committee appointed at the last general meeting to draw up a code of laws, etc.

1. Dr. VOSE proposed, and Mr. DESMOND seconded—

"That the report be received."

This proposition was carried unanimously.

2. It was proposed by Mr. GODDEN, seconded by Mr. MATHER, and carried unanimously—

"That the following gentlemen constitute the committee and office-bearers of the Association for the ensuing year; *President*—Ellis Jones, Esq.; *Vice-Presidents*—Edward Batty, Esq.; John P. Halton, Esq.; John Macnaught, M.D.; James Vose, M.D.; *Honorary Secretary and Treasurer*—Arthur B. Steele, Esq.; *Committee*—R. Y. Ackerley, Esq.; Henry Anderton, Esq. (Wavertree); E. R. Bickersteth, Esq.; T. Bickerton, Esq.; L. E. Desmond, Esq.; Joseph Dickinson, M.D.; King Ellison, Esq.; Joseph Godden, Esq. (Birkenhead); W. H. Manifold, Esq.; W. M'Cheane, Esq.; Hugh Neill, Esq.; John O'Bryen, M.D.; David Paterson, Esq.; Edward Parke, Esq. (West Derby); Henry Pritchard, Esq. (Fairfield); A. R. Stookes, M.D.; James Turnbull, M.D.; A. T. H. Waters, M.R.C.P."

3. The Honorary Secretary then read a code of rules and by-laws. The following are the rules:—

1. This Association shall be called "The Liverpool Medical Registration Association." 2. The objects of this Association shall be to watch the working of the Medical Act, to suppress illegal practice, and to assist the Registrar, under the Medical Act, in securing a correct registration. 3. All practitioners of orthodox medicine, who are entitled to be registered under the Medical Act, shall be eligible to become Members, and none others shall be allowed to be Members. 4. Each Member shall pay an annual subscription of five shillings; and no Member shall be entitled to exercise the privilege of membership whose subscription is two months in arrear. 5. The affairs of the Association shall be conducted by a President, four Vice-Presidents, an Honorary Secretary and Treasurer, and a Committee of eighteen members. 6. The President, Vice-Presidents, and Honorary Secretary, shall be *ex-officio* members of the Committee. 7. The President, Vice-Presidents, Honorary Secretary and Treasurer, and the Committee shall be elected at the Annual General Meeting of the members, to be held early in October; and all the Officers and the Members of the Committee shall be eligible for re-election.

The rules and bye-laws having been considered *seriatim*,

Mr. HAKES proposed, and Dr. HEYWOOD THOMSON seconded, the following resolution, which was carried unanimously—

"That the code of rules and bye-laws drawn up by the Provisional Committee, and now read to this meeting, be adopted, and constituted the laws for the future government of the Association."

A vote of thanks to the chairman, which was carried by acclamation, terminated the proceedings.

BRISTOL AND BATH MEDICAL REGISTRATION ASSOCIATION.

ON Thursday, November 10th, a general meeting of the medical profession practising in Bath and Bristol, and the adjacent districts, was held at the Institution, Park Street, Bristol. The meeting was convened by circular; and the attendance of the profession was numerous. Dr. DAVEY, President of the Bath and Bristol Branch of the BRITISH MEDICAL ASSOCIATION was proposed, and unanimously chosen chairman.

1. Dr. HERAPATH proposed, Mr. STANSFELD seconded, and it was carried unanimously—

"That this meeting considers it desirable that a Local Medical Registration Society should be formed for this district, to look after the general welfare of the profession."

2. Dr. TUNSTALL proposed, and Mr. J. J. EVANS seconded, and it was carried by a majority—

"That the name of the Society be the Bristol and Bath Medical Registration Association; and that the district belonging thereto comprise an area of fifteen miles round Bristol and Bath respectively, as well as the towns of Wells, Shepton Mallet, Weston-super-Mare, Warminster, Swindon, Devizes, and their vicinities."

3. Dr. MCDONALD proposed, and Dr. W. DAY seconded, and it was resolved—

"That all duly qualified practitioners in medicine and in surgery be eligible to become members of this Association; that in future admission shall be by ballot, and the affirmation of two-thirds of the members voting shall be necessary to secure the election."

4. Mr. GODFREY proposed, and Mr. E. S. MAYOR seconded, and it was resolved unanimously—

"That the officers of this Association shall consist of a President, three Vice-Presidents, Committee, two Treasurers, two General Secretaries, and Local Secretaries when necessary."

5. Dr. HENDERSON proposed, Dr. KAY seconded—

"That the committee consist of twenty elected members with the officers of the society; ten to be residents of Bristol; five of Bath; and five of the country districts—five to form a quorum."

The following amendment was proposed by Dr. DAVIES, and seconded by Mr. NORMAN—

"That the committee shall consist of twenty members; ten to be elected by the Bristol district, ten by the Bath district, with a president to be chosen annually from each district."

The amendment was carried by a large majority: therefore the original resolution was lost.

6. Mr. D. DAVIES moved, and Mr. A. SMITH seconded, and it was resolved unanimously—

"That the annual subscription be five shillings, payable in advance on the first of January."

7. Dr. HERAPATH proposed, and Dr. BUDD seconded—

"That Dr. Symonds be elected president for the ensuing year," Which was carried by acclamation.

8. Dr. TUNSTALL proposed the election of three Vice-Presidents; when Dr. DAVIES moved as an amendment, and which was seconded by Mr. STONE—

"That the election of the remaining officers be by ballot; and that voting papers containing the list of members of the Registration Association shall be sent to each member in the district in which he resides, by the secretary of that district. Members shall vote for three Vice-Presidents, and twenty members of Committee: the members of each district voting for ten members only of their own district. The returns to be made to a general meeting of the Association to be held at this place on the 1st of December, at 3 P.M."

Mr. EVANS moved, and Dr. TUNSTALL seconded—

"That the election of officers proceed in the same way as the election of President."

On these two amendments being put from the chair, the latter was lost by a large majority; and the former was carried almost unanimously.

9. The Secretaries of the Bath and Bristol Branch were then requested to act as Secretaries *pro tem.*; and the names of those present being read over, with hardly more than a single exception they all expressed their intention of joining.

10. Dr. DAVIES moved, Mr. STONE seconded, and it was carried by a large majority—

"That the same division of districts shall hold in the Registration Association as now exists in the Bath and Bristol Branch of the British Medical Association."

11. It was proposed by Mr. PRICHARD, seconded by Dr. BUDD, and carried—

"That an advertisement be inserted in the Bath and Bristol papers, requesting any members of the medical profession who may be willing to join the Medical Registration Association, to send their names to Dr. DAVEY, Park Street, Bristol, on or before the 24th inst., in order that they might be ballotted for previous to their admission."

The meeting terminated with a vote of thanks to the managers of the Bristol Institution, for their kindness in allowing the use of their theatre; and also to the Chairman, Dr. Davey, for his able presidency; which were both carried unanimously.

POOR-LAW MEDICAL REFORM.

The following letter has been addressed by Mr. Griffin to the Medical Officers of Unions:—

"12, Royal Terrace, Weymouth, November 9th, 1859.

"Dear Sirs,—It is now some months since I had the pleasure of addressing you individually; but the time has arrived for us to prepare for the approaching session of Parliament, when I hope the Poor-Law Board will bring in a Bill for an amendment of the laws relating to the medical relief of the poor. Should they, however, decline to carry out the promises of their predecessors, it is right that we should be prepared with a Bill for an independent member of the House to introduce, and it is with this view I now submit for your consideration the draft of a Bill, which is an amendment of the one previously brought under your consideration. The alterations in it are founded upon the suggestions I have received. The dread of opposition to the defining of the class of persons to be entitled to medical relief has led me to omit that clause, though I still think it would be well for the sake of the community at large, that all poor persons whose earnings are only a few shillings per week, should have a right to gratuitous medical assistance, and not be left to the caprice of a relieving officer to give or withhold an order; this change would be the means of saving innumerable lives, and much loss to the poor-rates. The suggested alterations in the qualifications of future medical officers, are founded upon the double qualification required by the Poor-Law Board [Art. 168] coupled with those required by the Medical Act to allow of registration, and a desire that our Irish and Scotch brethren should have equal privileges with ourselves.

"The important clauses relative to remuneration, are founded upon the suggestions of the late President of the Poor-Law Board, the Right Hon. T. Sotheron-Estcourt; and, as the plan proposed is based upon just principles, I trust it will meet with your approval. The vaccination clauses may or may not be the subject of a separate Bill; but I think it right that we, as practical men, should lay before Parliament our views on the subject. The working of the vaccination act has, to a considerable extent, been a failure, and such it will continue to be, until medical men are fairly rewarded for their services. There are other clauses, though of minor importance, still worthy your attentive consideration, and I feel sure you will not fail to give me your candid opinion of them; but before doing this it would be well to call a meeting of your colleagues in each Union, to discuss the several sections. My sole object has been to frame an Act that will meet the requirements of the profession, the poor, and the rate-payers; without this combination it will be impossible for us to get the legislature to pass any Bill. The medical jonrnals of the last few months, have, with their usual liberality, informed you that the cause has not been permitted to lie dormant; for, immediately upon the appointment of the present Poor-Law Board, I addressed a letter to them, the last paragraph of which is as follows:—'Once, again, I beg your Hon. Board will take up our cause without delay, and carry out the promises made by your honourable predecessors in office, and that you will carefully remodel a system which is cruel in the extreme to very many of your officers, and, I greatly fear, is also injurious to the sick poor." To this I received a reply 'that as soon as the Board is complete, your communication will be brought under the notice of the President.'

"On July 16th, I again addressed the Poor-Law Board, enclosing for their consideration the draft of a proposed Act of Parliament (in substance somewhat similar to the one I now send you, excepting the vaccination clauses.) To this I received the following reply:—'I am directed by the Poor-Law Board to acknowledge the receipt of your letter of the 16th instant, in which you transmit to them the draft of the Bill which you are desirous should be introduced into Parliament for the better regulation of medical relief to the poorer classes in England and Wales.' The answer, I grant, is a mere acknowledgment of the receipt of the Act; but still I feel sure the introduction of a Bill will follow, if you will act with decision, and respectfully demand that justice shall be done to the three parties concerned—the Union-surgeons, the poor, and the rate-payers.

"During the last session of Parliament, an excellent review of our previous labours, from the pen of a Union surgeon (I regret he will not allow me to publish his name), appeared in *Meliora*, a Quarterly Journal of Science. This I obtained leave to re-print, and sent to each M.P., in order that our cause might be brought before the attention of the new members, as well as kept in remembrance by those in the previous Parliament. I also sent with it a pamphlet containing the 'correspondence of Mr. Pullin with the Board of Guardians of St. Thomas Union, and the Poor-Law Board,' as the proceedings of the Guardians towards their medical officer, and the poor, were anything but creditable, and ought to be made known to the Members of the House of Commons, in order that they might see the necessity of a law which would protect the medical officer in the faithful discharge of his duty and could not be capriciously broken through by a Board of Guardians.

"It would give me great pleasure to call you together, and especially the Committee, to discuss the proposed Bill; but, as the expense to many of you would be considerable, I have adopted the course of sending the draft Act to such of you as are subscribers to the Association, or have been elected since January, 1858. I would gladly send a copy to all, but I do not feel justified in incurring a further outlay upon those who for upwards of three years have been passive spectators of our struggle, and have rendered us no assistance;—it is not, however, too late for them to subscribe; it is never too late to do well. For some months past, I have received but very few subscriptions, and the printing and postage of this Bill will entirely exhaust the resources of the Association. I must, therefore, again appeal to you for assistance, and trust you will endeavour to arouse your colleagues to a sense of their duty, and beg them not to allow a cause to flag after so much time and money have been expended. No one denies the justness of our complaints, but Parliament requires us to prove our case; we must, therefore, again and again, if need be, publish our *grievances*, and send a copy of our proposed Bill to each Member of Parliament, with a commentary on it—which cannot be done without money; a few shillings from each Union Medical Officer is all that is required; but, I regret to say, not half of the present officers have contributed a single shilling to prosecute this great labour, which, if successful, and successful it sooner or later must be, will increase and equalise their salaries, and elevate their status in the opinion of the world, and, need I add, it will conduce largely to the good of the poor, and be ultimately a saving to the rate-payers.

I am, dear Sirs, faithfully yours,

Richard Griffin, *Chairman*.

"To the Poor-Law Medical Officers, and the Committee especially."

☞ Subscriptions for 10s. and under may be forwarded in stamps or by Post-Office order.

TO CORRESPONDENTS.

POSTAGE OF MANUSCRIPT AND PRINTED MATTER.

Any amount of manuscript or printed matter, singly or together, provided it contains nothing in the form of a written letter, is transmitted through the post, in packets *open at the ends*, at the following rates: not exceeding 4 ounces, one penny; above 4 and not exceeding 8 ounces, twopence; above 8 ounces and not exceeding 1 pound, fourpence; for every additional half-pound or under, twopence.

Anonymous Correspondents should always enclose their names to the Editor; not for publication, but in token of good faith. No attention can be paid to communications not thus authenticated.

Communications have been received from:—Dr. P. H. Williams; Dr. Hassall; Mr. C. J. Evans; Mr. A. A. Johnson; Dr. Skinner; Mr. Dulvey; Dr. Radclyffe Hall; Mr. F. Fry; Dr. Armstrong; Mr. W. Sankey; Mr. R. S. Fowler; Mr. A. B. Steele; Mr. H. Terry, jun.; Mr. Crosby Leonard; Mr. Jno. Dix; A Surgeon; Mr. Oliver Pemberton; Mr. G. May, jun.; Mr. J. Parsons; Mr. A. G. Field; Mr. J. Jones; Mr. W. Webber; Dr. C. Handfield Jones; Dr. Herapath; Mr. T. Holmes; Dr. D. Thomson; Dr. Lionel Beale; Mr. S. H. Swayne; Mr. Edward Parke; Mr. F. J. Butler; Dr. J. Stone; Dr. R. Moffat; Mr. Richard Griffin; and Mr. T. Griffith.

BOOKS RECEIVED.

[* *An Asterisk is prefixed to the names of Members of the Association.*]

1. The Pathology and Treatment of Pulmonary Consumption; and the Local Medication of Pharyngeal, Laryngeal, Bronchial, and Nasal Diseases mistaken for, or associated with Phthisis. By *Jno. Hughes Bennett, M.D., F.R.S.E. Edinburgh: A. and C. Black. London: Longman & Co. 1859.

ADVERTISEMENTS.

Mr. Jones's Elastic Uterine Truss.

—This Truss combines in its construction strength, lightness, and elasticity, is easy to wear and efficient in its application. It affords great relief in cases of uterine pain from relaxation, often occurring in delicate females, and is of inestimable value in all cases of prolapsus uteri, rendering the use of pessaries entirely unnecessary.

N.B.—Apply to Mr. Jones, 43, Friargate, Derby, or to Longdon and Co., Wholesale Manufacturers, Derby.—Agents required.